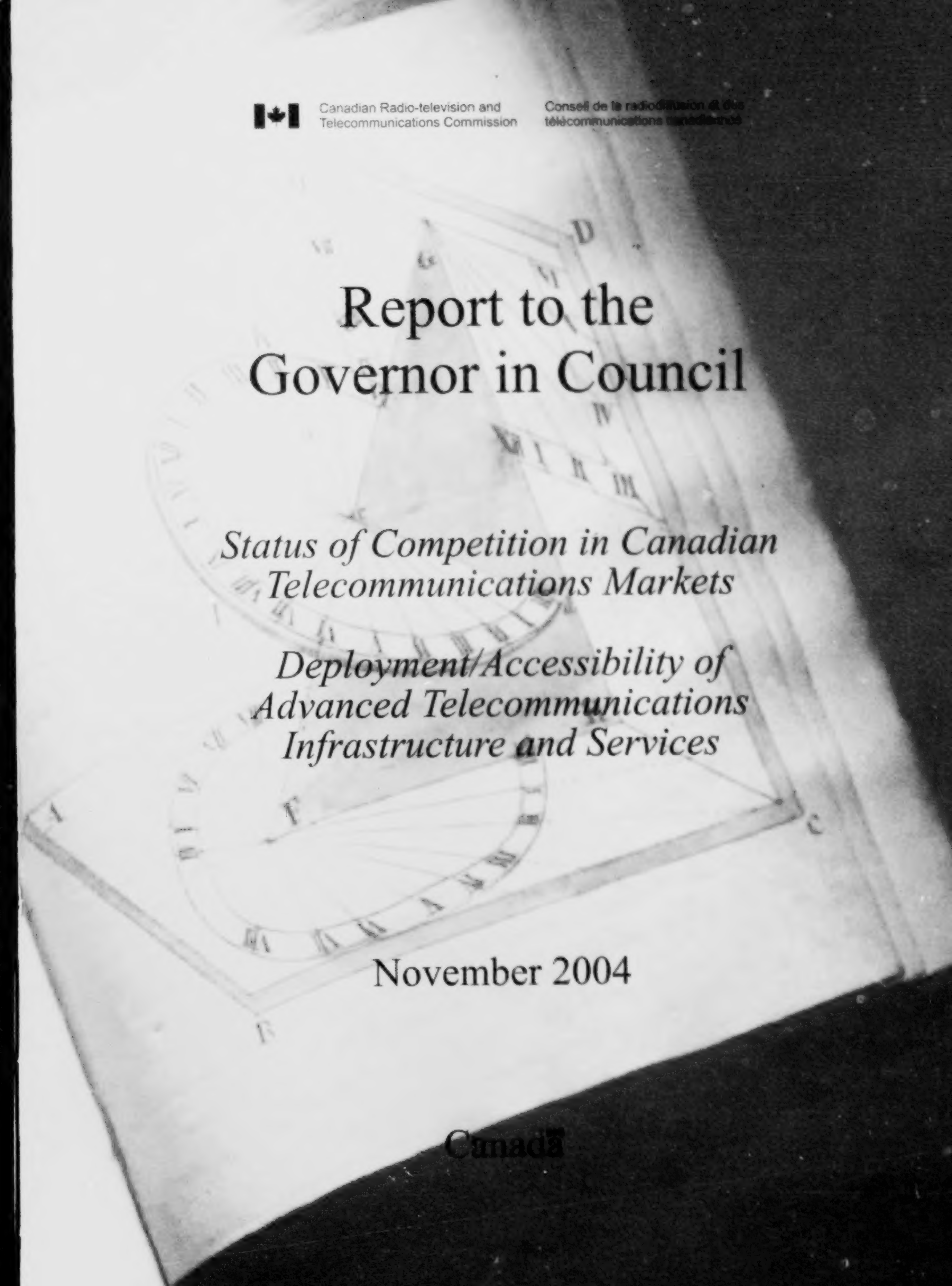

Canadian Radio-television and
Telecommunications Commission

Conseil de la radiodiffusion et des
télécommunications canadiennes

Report to the Governor in Council

Status of Competition in Canadian Telecommunications Markets

Deployment/Accessibility of Advanced Telecommunications Infrastructure and Services

November 2004

Canada

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Conseil de la radiodiffusion et des télécommunications canadiennes
Canadian Radio-television and Telecommunications Commission

Les Terrasses de la Chaudière
1, Promenade du Portage
Hull (Quebec)
K1A 0N2

Président / Chairman

25 November 2004

The Honourable David Emerson, P.C., M.P.
Minister of Industry
235 Queen Street
11th Floor – East Tower
Ottawa, Ontario
K1A 0H5

Dear Minister Emerson:

I have the honour to present to you, in accordance with Order in Council P.C. 2000-1053, the fourth report of the Canadian Radio-television and Telecommunications Commission addressing the Status of Competition in Canadian Telecommunications Markets and the Deployment and Accessibility of Advanced Telecommunications Infrastructure and Services.

Sincerely,

Charles M. Dalfen

Canada

Acknowledgements

The Commission wishes to thank all the entities that completed the CRTC Data Collection forms, without which, this report would not have been possible. The Commission would also like to acknowledge the assistance provided by Industry Canada in the analysis of broadband deployment as it related to the rural communities in Canada and to Statistics Canada for the various economic data used throughout the report.

Executive Summary

This is the fourth annual report to the Governor in Council with respect to the status of competition in Canadian telecommunications markets and on the deployment and accessibility of advanced telecommunications infrastructure and services.

Industry Overview

Internet and wireless services continue to be the engines of growth for the Canadian telecommunications industry. The revenues of the remaining services, including local and access, long distance and data and private line, declined in 2003. The industry has evolved, and continues to evolve, to meet the telecommunications needs of Canadians. Competition, as intended, continues to motivate both existing and new service providers to be innovative, agile and cost efficient in meeting the needs of all stakeholders. Canada has not only a very high telephone penetration rate of 98.7 subscribers per 100 households but also has a very high Internet subscription rate of 56 Internet subscribers per 100 households.

In 2003, total Canadian telecommunications revenues were $31.8 billion, an increase of 1.1% over the previous year. Wireline revenues, representing 75% of the industry total, declined from $24.4 billion in 2002 to $23.8 billion in 2003, a decrease of $0.6 billion or 2.4%. Wireless revenues, however, representing 25% of the industry total, displayed strong growth, increasing from $7.1 billion in 2002 to $8.0 billion in 2003, for an increase of $0.9 billion, or 13.3%.

The telecommunications industry's earnings before interest, taxes, depreciation and amortization (EBITDA) declined from $11.6 billion in 2002 to $10.9 billion in 2003, a $0.7 billion or 6% decline. This decline was entirely due to the wireline telephone companies (incumbents), whose EBITDA declined from $8.8 billion to $7.2 billion, a $1.6 billion or 19% decline. At the total industry level, this was partly offset by the wireless EBITDA, which increased from $2.2 billion in 2002 to $3.1 billion in 2003, for an increase of $0.9 billion or 38% and by the wireline competitors EBITDA which increased from $0.60 billion to $0.64 billion, an increase of $0.04 billion or 8%. As a result, the wireline incumbents' share of the industry EBITDA decreased from 76% of the industry to 66% while that of the wireless providers increased from 19% to 28% and the wireline competitors share remained relatively unchanged at 6%.

Capital expenditures declined from $6.3 billion in 2002 to $5.2 billion in 2003, a $1.1 billion or 17% decrease. All providers, both wireline and wireless, reduced capital expenditures in 2003. Wireless providers reduced capital expenditures from $1.6 billion in 2002 to $1.3 billion in 2003, a 23% decrease. Wireline incumbents reduced capital expenditures from $4.0 billion in 2002 to $3.6 billion in 2003, a decrease of $0.4 billion or 11%. Wireline competitors reduced capital expenditures from $0.7 billion in 2002 to $0.4 billion in 2003, a $0.3 billion decrease or 45%. Consolidation activities within the industry reduced capital expenditures for companies expanding outside their traditional operating territory.

The wireline competitors' percentage decline in capital expenditures is approximately 4 times that of the wireline incumbents. This may be attributed, in part, to several large competitors who have either emerged, or are emerging, from bankruptcy protection. These companies face the same constraints as the incumbents in managing capital expenditures. In addition, these companies must now place a greater reliance on internally generated funds than they did prior to entering bankruptcy protection. Although these companies restructured their financial affairs, their focus is to maintain healthy financial ratios and re-establish relationships with the financial community.

Consolidation continues in the industry. Allstream Inc. and the Canadian portion of 360networks Inc. have, or are being, acquired by MTS Communications Inc. (now MTS Allstream Inc.) and Bell Canada respectively, allowing MTS to begin, and Bell Canada to strengthen, out-of-territory operations. Subsequent to its deal to acquire the Canadian portion of 360networks, Bell Canada intends to sell 360networks' eastern Canadian customer base to Call-Net Enterprises Inc. (Call-Net). Call-Net also has the option of acquiring 360networks' eastern assets from Bell Canada. In a separate deal, Bell Canada took full control of Bell West Inc. by acquiring the remaining outstanding shares from MTS (now MTS Allstream). Another company, Microcell Telecommunications Inc., was acquired by Rogers Wireless Inc.

Long Distance

In the long distance market, revenues continued to decline, decreasing from $6.5 billion to $5.9 billion in 2003, a $0.6 billion or 9% decline. The number of long distance minutes, however, increased in 2003 by 1.8% when compared to the previous year. The incumbents' long distance revenues declined 11.6% while the competitors' revenues declined 2.4%. As a result, the competitors' share of long distance retail revenues increased from 28% in 2002 to 30% in 2003.

Local and Access

In the local wireline market, which continued to be the largest segment accounting for over 30% of the industry's telecommunications revenues, local revenues decreased from $10.0 billion in 2002 to $9.7 billion in 2003, a $0.3 billion or 3% decrease while the number of local lines increased from 20.6 million lines to 20.7 million lines, a 0.2% increase.

Overall, local wireline competitors and incumbent out-of-territory operations made progress, as their combined market share of local lines increased from 5.1% in 2002 to 6.3% in 2003. Their combined share of local business lines increased from 10.3% in 2002 to 11.7% in 2003 and their share of residential lines increased from 1.4% in 2002 to 2.0% in 2003. Competition in these markets was primarily confined to the major urban centres, where they generally had between 0.1% and 26.9% of the local business lines and between 1.6% and 17.6% of the local residential lines.

Local wireline competitors paid incumbents $0.52 in 2003 for every local revenue dollar earned for the use of the incumbents' facilities and services in order to serve their local customers. This is a 33% reduction from the previous year. This reduction is mainly attributed to regulatory action which reduced the rates incumbents charge competitors for some competitor services. The competitors, however, remain heavily dependent on the incumbents' local facilities due, in part, to their limited access to external funding and the high cost of building these facilities to support a market share of approximately 5%.

Internet and Broadband Deployment

The Internet market continued to be one of the fastest growing markets in the industry. Internet revenues increased from $3.3 billion in 2002 to $3.7 billion in 2003, a $0.4 billion or 11% increase. The incumbents had 42% of the retail Internet access revenues in 2003, while the cable companies had 36% and all others had 22%. The four largest Internet service providers accounted for 54% of the retail Internet revenues in 2003.

Broadband deployment continued to progress, with approximately 86% of Canadian households having access to broadband services, of which 42% actually subscribe. Ninety-five percent (95%) of urban households can access broadband service versus 63% of the rural households. In 2003, 56% of Canadian households had an Internet subscription. There were more high-speed Internet households (36%) than there were households with dial-up subscriptions (20%). Public funding to help seed private sector investment in broadband deployment was also available at both the federal and provincial levels based on a variety of funding models.

Wireless

The wireless market continued to display strong growth and continued to be very competitive. Wireless revenues increased from $7.1 billion in 2002 to $8.0 billion in 2003, a $0.9 billion or 13% increase. The wireless share of the telecommunications revenues continued to increase, growing from 23% of total industry revenues in 2002 to 25% in 2003. Four major entities accounted for over 93% of the wireless market, with no entity dominating in terms of either revenues or subscribers. After several years of decline, the average monthly revenues per subscriber increased slightly to $49 from $48 in 2002.

Data and Private Line

In the data and private line market, total revenues in 2003 decreased from $4.55 billion in 2002 to $4.48 billion in 2003, a $0.06 billion or 1.4% decrease. This decline was the result of private line service revenues that declined by 6.3%, offsetting a 4.4% revenue growth displayed by data services.

Aggressive pricing and reduced demand were the major contributors to the decline in private line service revenues. However, the competitors' market share of the data and private line market remained relatively unchanged at approximately 20%. The industry has introduced new data services to meet customer requirements for increased speed, functionality and cost efficiency. Service providers promoted these newer data services such as Ethernet and Internet Protocol based Virtual Private Network which had revenue growth of 34% and 74%, respectively, and which may account for some of the reduced demand for private lines and legacy data services such as X.25.

Consumer Survey

Based on the results of the consumer survey performed by Decima Research Inc. in 2004 on behalf of the Commission, 67% of Canadians believe that they have benefited from the availability of competition compared to 72% in last year's survey. Forty-one percent (41%) of Canadians indicated that they had at some time subscribed to an alternative provider of long distance service. More than half of the households (52%) indicated that they spend more than $75 a month on telecommunications services. Sixty-five percent (65%) of Canadian households believe that their total monthly spending on telecommunications services, consisting of local, long distance, Internet and wireless service, stayed about the same or had decreased over the previous year.

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1.0 Introduction

1.1 Purpose of the Report

This is the fourth annual report of the Canadian Radio-television and Telecommunications Commission (Commission) on the status of competition in Canadian telecommunications markets and the deployment and accessibility of broadband services and facilities across the country.[1]

The report has been prepared in response to the Governor in Council's June 2000 Direction which:

> (a) requires the Commission to submit, once in each year for the next five years, a report to the Governor in Council on the status of competition in Canadian telecommunications markets and on the deployment and accessibility of advanced telecommunications infrastructure and services in urban and rural areas in all regions of Canada,
>
> (b) requires that the report include
>
> > (i) an examination of promising means for accelerating private sector investment in rural broadband infrastructure, such as initiatives to aggregate local demand for advanced telecommunications services, and
> >
> > (ii) relevant data and analyses.[2]

The information gathered as part of its monitoring activities enables the Commission to determine more effectively (a) the state of competition, (b) the effect of competition on services to consumers and business customers, and (c) service providers' compliance with legal and regulatory requirements. This report, therefore, represents a key component of the Commission's ongoing monitoring plan. It also becomes an authoritative source of information on the Canadian telecommunications industry for use by various stakeholders.

In addition to companies that are primarily involved in the provision of telecommunications services, the scope of this report includes broadcast distribution undertakings (e.g., cable companies) that provide telecommunications services such as Internet access or other telecommunications services, either directly or indirectly, through affiliated companies. For the purposes of this report, only telecommunications services and operations are taken into account in the case of cable companies[3] as well as other companies whose primary line of business lies outside of telecommunications (e.g., as in the case of utility companies involved in the provision of telecommunications services).

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[1] The previous three reports on the *Status of Competition in Canadian Telecommunications Markets – Deployment/Accessibility of Advanced Telecommunications Infrastructure and Services* were issued in September 2001, December 2002, and November 2003.

[2] Order in Council P.C. 2000-1053, June 26, 2000 issued pursuant to section 14 of the *Telecommunications Act*.

[3] The Commission's annual *Broadcasting Policy Monitoring Report* provides more comprehensive data on broadcasting distribution undertakings as well as radio and television broadcasters, and Internet use in Canada.

1.2 Data Collection and Outline of the Report

This report is based on the responses to the Commission's data collection exercise based on forms which have been issued annually since 2002 (referenced as CRTC Data Collection), internal analyses, data collected from other sources, including Statistics Canada, Industry Canada, company-specific financial reports and information previously filed with the Commission.

In 2004, the Commission implemented a number of administrative changes to the data collection process in order to better coordinate and streamline the activities that it undertakes to monitor and regulate the Canadian telecommunications industry. These include activities related to telecommunications entity registration lists, international licences, telecommunications fees and the contribution regime.[4]

In 2004, the Commission introduced a secure web-based platform, the Data Collection System or DCS, to collect 2003 data from telecommunications service providers. DCS supports the Canadian Government Online (GOL) initiative to help improve the quality and timeliness of the data collected, and reduce the overall effort required to produce the monitoring report. DCS also provides the respondent telecommunications companies with the means to validate their submitted data and make any required revisions on-line.

This year, the data collection consisted of a two-step process. The first step involved the issuance of an on-line Reporting Entity Profile (REP) form to enable all telecommunications entities to update their information relating to the Commission's registration lists, international licences, telecommunications fees, the contribution regime and the monitoring report. In addition, the REP form reduced the reporting burden on the entities. The data provided in the REP form was used to identify the universe of entities required to participate in the CRTC data collection process and to determine the set of data forms each entity was to complete. The second step was the issuance of detailed data forms which were made accessible to each entity using a secured web site to the DCS.

The 2004 Commission Data Collection forms encompassed a range of company-specific information, including financial data (e.g., income statement, balance sheet and capital expenditures) along with detailed telecommunications information focusing on product and geographic market information. Geographic markets were defined on a national, provincial/territorial, regional, city or, for mapping purposes, postal code basis. Data was primarily collected for 2003.

Most firms providing one or more telecommunications products or services were required to submit their data for 2003, using the telecommunications industry data collection forms. Separate forms were required for each legal entity providing any such services on 31 December 2003. Where a legal entity in existence on 31 December 2003 was formed through a merger of predecessor companies, survey responses were provided on a consolidated basis for all predecessor companies.

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[4] *Telecommunications industry data collection: updating of CRTC registration lists, telecommunications fees, Canadian contribution mechanism fund administration, international licences and monitoring of the Canadian telecommunications industry*, Telecom Circular CRTC 2003-1, 11 December 2003.

In order to reduce the burden of data reporting on small firms (with revenues under $5 million), the reporting requirements and forms were simplified to include only revenues from their market segments.

Certain figures published in prior years' monitoring reports have been restated to be consistent with 2003 figures. These amounts have been identified by means of a number sign (#). Other figures have changed as a result of some companies resubmitting prior years' data. In addition, certain data have been reclassified to better reflect the market segments.

Some of the tables and figures included in the report are derived from the CRTC Data Collection while others are derived using Statistics Canada and Industry Canada information. These data sources are not always consistent, given that the universe surveyed, the definitions used and the level of precision requested may be different. The data source is identified for each table and figure contained in the report. Statistics Canada data is generally only used when the data is not available from the CRTC Data Collection process.

Each reporting entity was assigned a separate company type and sub-type classification, which reflect historical legacies (e.g., incumbent in a specific industry prior to competition) and whether the company owns facilities (e.g., facilities-based or reseller). Where operating entities are part of a larger corporate family (defined as direct or indirect ownership above 50%), the longer historical legacy supersedes other classifications.

The following classifications and sub-classifications have been adopted for the purpose of this report:

i) Incumbent telephone companies

   a) large incumbent carriers
   b) small incumbent carriers

ii) Competitive service providers

   a) facilities-based competitive service providers
   b) resellers/pay telephone service providers
   c) cable service providers
   d) utility telcos

The Commission also commissioned Decima Research Inc. to conduct a survey to assess consumer behaviour towards, and perceptions and awareness of, telecommunications services. Objectives of the survey included the measurement of consumers' expenditure and choices in telecommunications services, wireless and Internet usage and views on regulation and the benefits of competition.

This report is divided into the following additional sections and appendices:

- Section 2 discusses the role of market information in monitoring progress and changes within the industry.
- Section 3 provides an overview of the telecommunications industry and regulation, as well as an overall review of service providers in the market.
- Section 4 provides a review of financial information, including revenue, capital expenditures and other operational data for various sectors of the industry. It also examines the status of competition in each of the major market segments, including long distance, local, Internet and broadband, wireless, data and private line, and pay telephone.
- Section 5 reviews broadband availability and promising means for accelerating broadband deployment to rural and remote areas of the country.
- Section 6 provides information on residential consumers and business customers, including the results of the consumer survey commissioned by the Commission.
- Appendix 1 contains a summary of Canadian telecommunications milestones to competition.
- Appendix 2 contains a summary of Canadian telecommunications markets subject to forbearance rulings.
- Appendix 3 provides a summary of certain recent Commission rulings relevant to telecommunications competition.
- Appendix 4 provides a brief description of the major market participants.
- Appendix 5 contains a glossary of terms and acronyms used in this report.

2.0 The Role of Market Information

2.1 Overview

The Commission is largely responsible for the implementation of the *Telecommunications Act* (the Act) enacted in 1993. Certain objectives of the Act, set out in section 7, are directly or indirectly tied to the notion of competition. For example, subsection 7(f) of the Act explicitly states that an objective is "to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective."

In providing an overview on the status of competition in the various telecommunications market segments in Canada, this report, as well as the ongoing monitoring of the telecommunications industry, will assist the Commission in its regulation of the industry.

The Commission is part of a growing number of regulatory bodies that prepare regular monitoring reports. The use of monitoring reports has gained favour as a means of tracking ongoing industry developments to determine whether regulatory and legislative objectives are being met. This is particularly true of countries that are placing, or have placed, a greater emphasis on competition in the regulation of telecommunications services.

2.2 Competition and Monitoring

There are various means for measuring competition; however, good quality data is critical if the monitoring process is to be accurate and useful. For the most part, the Commission uses its own data collection mechanisms in order to gather detailed and timely information.

There is no single or simple way of assessing the state of competition in a market. The Commission uses key indicators in monitoring competition. These include (i) various measurements of market size and market share according to criteria such as revenues, number of subscribers, lines and minutes, (ii) number and description of suppliers in the market, (iii) lists of available services, pricing levels and trends, and (iv) corporate financial conditions.

Specific elements of the monitoring exercise may need to change over time to take into account significant market developments, such as new technologies, changes in the market structure or in domestic or international regulations or agreements, or the introduction of new services. Adaptability ensures that monitoring reports continue to be useful tools for regulators, customers and industry players.

3.0 Overview of the Telecommunications Industry and Regulation

3.1 Regulatory Oversight of Canadian Telecommunications Markets

The Commission has a broad range of powers to implement the policy objectives set out in section 7 of the Act, including the powers to ensure that rates are just and reasonable and that Canadian carriers do not discriminate unjustly or accord any undue preference with respect to the provision of telecommunications services.[5] In addition to regulating the rates, terms and conditions under which telecommunications services are provided, the Commission has the power to forbear from regulating telecommunications services or classes of service where it finds, among other things, that there is sufficient competition to protect the interests of users.[6]

Industry Canada exercises powers relating to the allocation of radio spectrum under the *Radiocommunication Act*. Among other things, Industry Canada is responsible for developing spectrum allocation, spectrum utilization and service policies covering fixed and mobile terrestrial and non-terrestrial (i.e., satellite) wireless service applications. In this regard, it has the power to issue spectrum licences, either through an application process or a spectrum auction process.[7] As well, Industry Canada has pursued spectrum licensing strategies that have increased potential entry into the various segments of the wireless market. It may also set the terms and conditions for any such licences as it deems appropriate.

While the Commission is responsible for regulating and for establishing the terms and conditions of competition in the telecommunications industry as a whole, Industry Canada effectively determines the terms and conditions of entry in the wireless segment of the industry. Consequently, there is a shared responsibility for regulating the wireless portion of the telecommunications industry in Canada between the Commission and Industry Canada.

3.2 The Commission and Competition

In exercising its statutory powers both under predecessor legislation and the Act, the Commission has gradually and in an orderly manner opened up monopoly-based markets to competition over the years. The Commission's approach to opening up various market segments to competition is to weigh the potential advantages and disadvantages, and to strike a fair and reasonable balance between the often conflicting interests of all concerned, including incumbents, competitors and customers. The Commission forbears from regulation pursuant to section 34 of the Act, when it considers that a service or class of services is subject to a level of competition sufficient to protect the interests of users of the service.

The Commission continues to strive to render reliable and affordable services of high quality, accessible to both urban and rural area customers, to foster facilities-based competition, to provide incumbents with incentives to increase efficiencies and be more innovative, and to adopt regulatory approaches that impose the minimum regulatory burden possible. The Commission continues to remove obstacles to fair and sustainable competition, including eliminating barriers to access and ensuring regulatory compliance. In addition, the Commission maintains regulatory clarity through clear rules, clear determinations and the establishment of clear lines of communication. However, regulation is only a piece of the puzzle. Economic conditions are also an important part of the mix, as are technology development and the quality of business decision-making.

---

[5] Subsections 27(1) and 27(2) of the *Telecommunications Act*.

[6] Section 34 of the *Telecommunications Act*.

[7] Section 5 of the *Radiocommunication Act*.

The Commission has put in place a range of other measures to encourage the development of competition in the remaining regulated sectors of the industry. For instance, the CRTC Interconnection Steering Committee (CISC) process provides a forum for interested parties, with the assistance of Commission staff, to resolve local competition implementation issues of a technological, operational or administrative nature.

Commission staff also mediate service provider disputes, which in many cases avoids the need for formal proceedings. In cases where a Commission determination is required, this informal mediation enables the issues in dispute to be more narrowly defined and provides a means to obtain better information for an ultimate determination.

In 2004, the Commission also initiated an expedited procedure[8] for resolving competitive issues that are factual in nature and relate to established rules and not to the creation of new ones. This process is an efficient and effective way of dealing with disputes. A number of expedited hearings were held in 2004 and decisions were generally issued within a week. On other occasions, applications were withdrawn because parties were able to resolve their issues with the help of Commission staff.

The Commission encourages parties to explore various options to resolve outstanding competitive issues, including bilateral negotiations, third-party mediation or staff assisted dispute resolution.

A summary of the most significant milestones in opening telecommunications markets to competition is contained in Appendix 1.

Appendix 2 provides a summary of the most significant forbearance rulings since the Commission was granted this power in 1993. While the Commission has forborne and continues to forbear from regulating a growing number of services, at the same time, the Commission continues to regulate telecommunications services. In the case of large incumbents [including Aliant Telecom Inc. (Aliant Telecom), Bell Canada, MTS Communications Inc. (now MTS Allstream Inc.),[9] Saskatchewan Telecommunications (SaskTel) and TELUS Communications Inc. (TELUS)], these services include residential basic local services, business single and multi-line local services, local options and features, pay telephone, digital network access, local channels and competitor services, among others. Starting in 1998, the regulation of these services (for all of these companies except SaskTel) changed fundamentally, shifting away from an earnings-based to a price level-based form of regulation.[10] The first price regulation regime covered the period 1998 to 2002. In 2002, it was reviewed and modified.[11] The new regime, which now also applies to SaskTel, became effective in June 2002 and extends through to 2006.

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[8] *Expedited procedure for resolving competitive issues*, Telecom Circular CRTC 2004-2, 10 February 2004.

[9] For the purposes of this report which primarily addresses 2003, Allstream Inc. and MTS are treated as separate companies. Allstream is classified as a facilities-based competitor and MTS as a large incumbent.

Non-forborne telecommunications services provided by Société en commandite Télébec (Télébec) and TELUS Communications (Québec) Inc. (TELUS Québec) were made subject to price cap regulation as of August 2002.[12] In addition, non-forborne services provided by small incumbent telephone companies were made subject to a simplified form of price regulation effective in January 2002.[13]

The Commission has also issued a number of recent rulings that further support the development of competition in the Canadian telecommunications industry. The most important recent rulings are summarized in Appendix 3.

3.3 Overview of the Telecommunications Services Industry

The Canadian telecommunications services industry plays a significant role in the Canadian economy as a whole. The industry's share of Canada's real gross domestic product (GDP) value added was 2.3% in 2003.[14] The telecommunications industry ranks 9th out of the 14 major service producing components of the GDP as listed by Statistics Canada.[15]

Capital expenditures for telecommunications service providers also account for a significant portion of the overall capital expenditures in the Canadian economy. Telecommunications industry capital expenditures were 2.2% of total economy-wide capital expenditures in 2003,[16] down from the 2002 level of 3.5%. Capital expenditures for the industry declined in 2003 by 17%.[17] This decline was due to factors such as revised business plans that focus on the company's strengths, company cost cutting and reluctance of investors to provide funding to companies either in, or emerging from, bankruptcy protection, requiring such companies to place a greater reliance on their limited internally generated funds. As well, as companies restructured, assets were disposed of and acquired by the remaining companies, reducing the need to build new facilities.

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[10] *Price cap regulation and related issues*, Telecom Decision CRTC 97-9, 1 May 1997.

[11] *Regulatory framework for second price cap period*, Telecom Decision CRTC 2002-34, 30 May 2002 (Decision 2002-34).

[12] *Implementation of price regulation for Télébec and TELUS Québec*, Telecom Decision CRTC 2002-43, 31 July 2002 (Decision 2002-43).

[13] *Regulatory framework for the small incumbent telephone companies*, Decision CRTC 2001-756, 14 December 2001 (Decision 2001-756).

[14] Statistics Canada CANSIM database, March 2004, reported in Sec. 1.0, *Telecommunications Service in Canada: An Industry Overview*, Industry Canada Telecommunications Policy Branch 2004-07-20.

[15] Statistics Canada CANSIM database and Table 1-2 of Industry Canada, Telecommunications Service in Canada: an Industry Overview.

[16] Statistics Canada CANSIM database, as of March 2004 as reported in Industry Canada – *Telecommunications Service in Canada: An Industry Overview*, Table 1-2.

[17] CRTC Data Collection (Figure for 2001 excludes the spectrum auction to acquire new licences).

In 2003, the number of employees in the Canadian telecommunications services industry was approximately 110,800, representing 0.8% of total employees in Canada.[18]

According to Statistics Canada, employment in this industry slowly increased from 1999 to 2003, but until 2003, as displayed in Table 3.3., remained below the 1991 level which was just over 108,000.

Table 3.3.1
Telecommunications Services Employment
(Thousands)

Year	Employees
1999	101.4
2000	103.7
2001	104.9
2002	105.1
2003	110.8

Source: Statistics Canada

Telecommunications services revenues for all reporting entities completing the 2004 CRTC Data Collection forms were $31.8 billion in 2003.[19] This represents an annual growth rate of 5.4% over the 1999 level of $25.8 billion. Table 3.3.2 provides a summary of the total telecommunications services revenues for each of the five years.

Table 3.3.2
Total Telecommunications Services Revenues
($ billions)

Year	Total Telecommunications Services Revenues
1999	26.0
2000	28.9
2001	31.4
2002	31.4
2003	31.8

Source: CRTC Data Collection

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[18] Industry Canada – *Telecommunications Service in Canada: An Industry Overview*; Section 1, Table 1-2, issued 27 July 2004.

[19] Under coverage estimates were used for the Internet market.

3.4 Penetration Rates

Penetration rates provide a useful general indicator of consumer access to telecommunications networks.

For the purposes of this report, penetration rates are measured using access per 100 households. Penetration rate data for Canada, including wireline, wireless and wireline and/or wireless covering the period 1998 to 2002, is summarized below in Table 3.4.1.[20]

The rate of penetration of wireline and/or wireless has remained relatively constant over the years 1998 to 2002. Wireline penetration has declined over this period to 97.0 access lines per 100 households in 2002, down from a high of 98.1 in 1999. In contrast, wireless penetration doubled over this period, reaching 51.6 subscribers per 100 households in 2002. The penetration rates in Table 3.4.1 indicate that 1.7% of Canadian households have only a wireless service in 2002, up from 0.4% in 1998.

Table 3.4.1
Canadian Penetration Rates
Wireline Access Lines and Wireless Subscribers
(per 100 households)

Year	Wireline	Wireless	Wireline and/or Wireless	Wireless (Only)
1998	98.1	26.2	98.5	0.4
1999	98.2	31.9	98.7	0.5
2000	97.7	41.8	98.8	1.1
2001	97.4	47.6	98.6	1.2
2002	97.0	51.6	98.7	1.7

Source: Statistics Canada

3.5 Market Participants

The Commission maintains registration lists[21] of service providers that either operate or propose to operate in the Canadian telecommunications industry. There are over 1,100 telecommunications service providers listed on these lists. The service providers on these lists were contacted and issued the REP form as discussed in section 1.2.

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[20] 2002 Monitoring Report pursuant to Order CRTC 2000-393, 10 May 2000. Original data source: Statistics Canada.

[21] Separate lists are maintained for non-dominant carriers, competitive local exchange carriers (CLECs), carriers, basic international telecommunications services (BITS), competitive pay telephone service providers (CPTSPs), digital subscriber line (DSL) providers, independent carriers, resellers and resellers of Internet high-speed service. These lists can be viewed at: http://www.crtc.gc.ca/eng/lists.htm.

For the purposes of this report, these providers are divided into the following categories:

i) *Incumbents* are the telephone companies that provided telecommunications services on a monopoly basis prior to the introduction of competition.

  a) *Large Incumbents* are those incumbents serving relatively large serving areas, usually including both rural and urban populations, and providing local, long distance, wireless, Internet, data, private line and other services. The large incumbent companies include Aliant Telecom, Bell Canada, MTS Communications Inc. (now MTS Allstream Inc.), SaskTel and TELUS, as well as Northwestel Inc. (Northwestel), Télébec, and TELUS Québec (now part of TELUS).

  b) *Small Incumbents* are those incumbents serving relatively small serving areas (mostly municipal areas generally located in less densely populated areas) in Ontario, Quebec and, in one instance, British Columbia. Due to the limited size of their serving areas, they typically do not provide facilities-based long distance services. However, they do provide a range of local voice, data, Internet and wireless services. The small incumbents include companies such as NorthernTel, Limited Partnership and Thunder Bay Telephone.

ii) *Competitors* are providers of telecommunications services that are not incumbent telephone companies.

  a) *Facilities-based competitive service providers* are those competitive service providers that own physical transmission facilities (e.g., inter-city, intra-city, or local). These service providers include such companies as Allstream (now MTS Allstream Inc.), Call-Net Enterprises Inc. (Call-Net), Microcell Telecommunications Inc. (Microcell), FCI Broadband (a division of Futureway Communications Inc.), and 360networks services ltd. and GT Group Telecom Services Corp. (Group Telecom) (collectively, 360networks).

  b) *Resellers* are non-facilities-based competitive service providers. These service providers include Primus Telecommunications Canada Inc., Distributel Communications Limited, YAK Communications (Canada) Inc., and hundreds of others, including independent Internet service providers (ISPs).

  c) *Competitive Pay Telephone Service Providers (CPTSPs)* are competitive service providers that provide public telecommunications services by way of pay telephones.

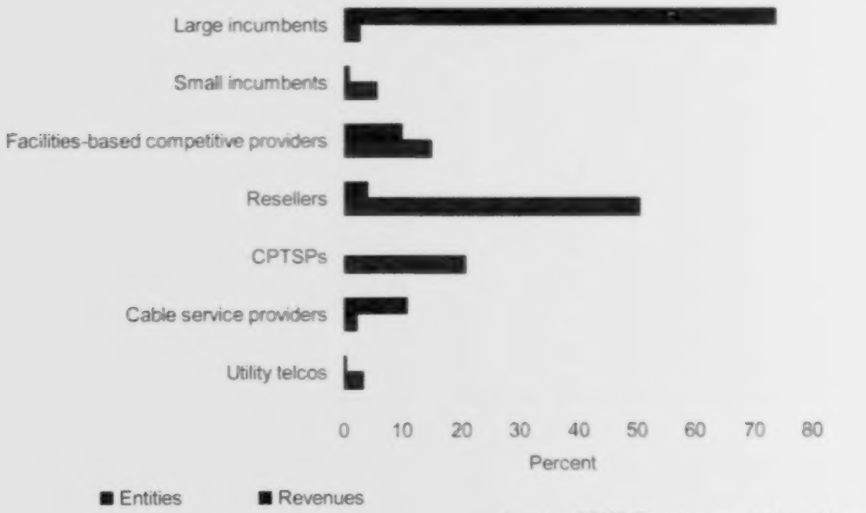
  d) *Cable service providers* are the historical cable monopolies that also provide telecommunications services (e.g., Internet, wireless and voice). These cable service providers include such companies as Rogers Communications Inc. (Rogers), Shaw Communications Inc. (Shaw), Le Groupe Vidéotron ltée, Cogeco Inc. and Bragg Communications Incorporated (EastLink).

e) *Utility telcos* are service providers whose market entry into telecommunications services, or whose corporate group's market entry into telecommunications services, was preceded by a group-member company's activity in the electricity, gas or other utility business. These service providers include such companies as Hydro One Telecom Inc., Toronto Hydro Telecom Inc. and FibreWired Network.

An overview of these categories is provided in Appendix 4.

As displayed in Figure 3.5.1, approximately 50% of the service providers are resellers, representing the single largest group of telecommunications service providers operating, or who propose to operate, in the Canadian telecommunications industry.

Figure 3.5.1
Distribution of Telecommunications Service Providers



Source: CRTC Telecommunications Lists

Each of the reporting entities that completed the 2004 CRTC Data Collection forms was assigned to one of the above-noted categories. Certain categories of competitive service providers were combined, as separate reporting would have resulted in residual disclosure of confidential information. Also, certain figures and percentage growth calculations may not reconcile due to rounding.

Incumbent carriers' out-of-territory activities are captured within the various sections of the report. In the local and access section, the out-of-territory activities for the year 2003, for the most part, are identified separately from the incumbent and competitor data. Where data did not permit separate identification, the out-of-territory was included as part of the incumbent data. In all other sections, where applicable, the out-of-territory activities are included as part of the incumbent data, due, in large part, to a lack of available data and to the determination that other markets, such as long distance, have been previously defined to be national in scope.

A summary of total telecommunications service revenues in aggregate and by type of market participant for the five year period 1999 to 2003 is provided in Table 3.5.1 below. As Table 3.5.1 demonstrates, the incumbents' share of the industry's total telecommunications service revenues decreased from 81% in 1999 to 75% in 2003.

Table 3.5.1
Total Telecommunications Services Revenues by Type of Market Participant
($ millions)

	1999	2000	2001	2002	2003
Incumbents Carriers					
Large	20,685.5	22,622.9	24,541.0	23,560.4	23,483.9
Small	254.6	278.4	281.9	319.5	311.9
Sub-total	20,940.1	22,901.3	24,822.9	23,879.9	23,795.8
Percent of Total	81%	79%	79%	76%	75%
Competitors					
Facilities-based	2,853.0	3,310.9	3,391.3	3,247.3	3,141.5
Resellers/CPTSPs	348.5	625.0	709.2	1,217.6	1,315.2
Cable Providers	1,617.2	2,037.7	2,448.4	3,009.2	3,432.9
Utility Telcos	0.1	5.6	31.2	104.5	132.3
Sub-total	4,818.8	5,979.2	6,580.1	7,578.6	8,021.9
Percent of Total	19%	21%	21%	24%	25%
Total	25,758.9	28,880.5	31,403.0	31,458.5	31,817.7

Source: CRTC Data Collection

4.0 Status of Competition

4.1 Financial Review of Markets

Highlights

- Telecommunications industry service revenues increased 1.1% in 2003, with wireline revenues decreasing 2.4% and wireless revenues increasing 13.3%.
- Incumbents, including their wireless operations, continue to have the lion's share (75%) of the telecommunications revenues.
- Telecommunications industry capital expenditures decreased 17% from 2002.
- Telecommunications industry earnings before interest, taxes, depreciation and amortization (EBITDA) declined from $11.6 billion in 2002 to $10.9 billion in 2003, a 6% decline.
- Wireless EBITDA increased from 19% of the total industry in 2002 to 28% in 2003.
- Wireline competitors' EBITDA increased from $0.60 billion in 2002 to $0.64 billion in 2003, an 8% increase. The competitors' share of total industry EBITDA remained unchanged at 6%.

Part A – Telecommunications Revenues

Overview – Market Segment Revenues

Telecommunications revenues include revenues from both wireline and wireless service offerings. Wireline service revenues include local and access, long distance, data and private line and Internet service revenues, but exclude revenues from terminal sales and rentals. Wireless service revenues include mobile and paging service revenues as well as the terminal equipment revenues generated within this market segment.

As shown below in Table 4.1.1, wireline revenues decreased 2.4% from $24.4 billion in 2002 to $23.8 billion in 2003.

Table 4.1.1
Total Telecommunications Service Revenues[22]
($ billions)

	1999	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 1999-2003*
Wireline	20.9 #	23.3 #	25.0 #	24.4 #	23.8	-2.4%	3.3%
Wireless	4.8 #	5.6 #	6.4 #	7.1 #	8.0	13.3%	13.5%
Total	25.8 #	28.9 #	31.4 #	31.5 #	31.8	1.1%	5.4%

Source: CRTC Data Collection
Note: CAGR refers to Cumulative Annual Growth Rate

This 2.4% decline was offset by wireless growth, which is slowing down but still strong at 13.3%. Wireless revenues increased from $7.1 billion in 2002 to $8.0 billion in 2003.

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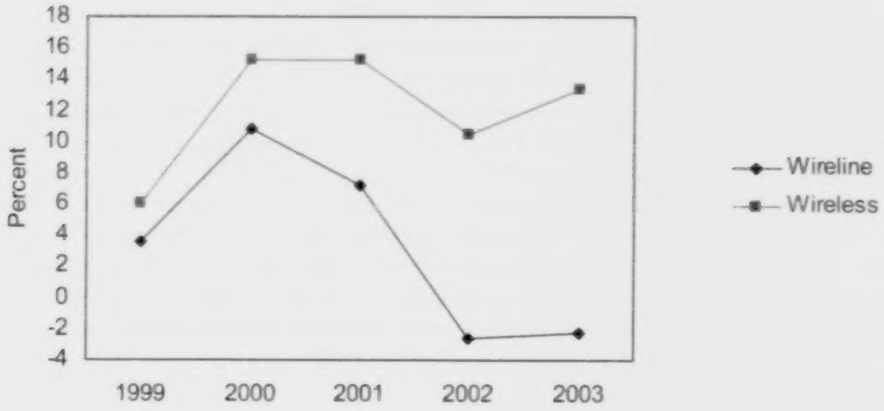
[22] Total Telecommunications Service Revenues consist of the telecommunications service revenues of all companies surveyed. Terminal equipment and other non-telecommunications revenues were excluded. As well, under coverage estimates were used for the Internet market.

As shown in Figure 4.1.1, wireline revenue growth, after displaying a strong growth of 11% in 2000 has been declining, to the point where, by 2002, it became negative. In 2003, wireline growth remained relatively unchanged at -2.4%. In contrast, wireless revenue growth has been strong since 2000 at approximately 15%, dipping in 2002 to 10% and then recovering to 13% in 2003. The decline in wireline revenue in Canada mirrors similar declines that have recently been experienced in both the United States[23] and United Kingdom.[24]

Figure 4.1.1
Wireline and Wireless Annual Revenue Growth Rates (%)



Source: CRTC Data Collection

Overall, wireline market revenue experienced a cumulative decline of 2.4% since 2001. All wireline market segments displayed a downward trend in 2003, except for the Internet segment which displayed a strong growth of 11.2%. Declining prices and reduced demand in the private line market resulted in a decrease in data and private line revenues of 1.4%. Long distance revenues declined 9% mostly due to declining prices, and local and access revenues declined by 3.0%.

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[23] FCC Trends in Telephone Service, Industry Analysis and Technology Division Wireline Competition Bureau, May 2004, Table 15.2
http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend504.pdf.

[24] OFCOM: The Communications Market 2004 – Telecommunications, page 26, figure 10
http://www.ofcom.org.uk/research/industry_market_research/m_i_index/cm/cmpdf/telecoms.pdf.

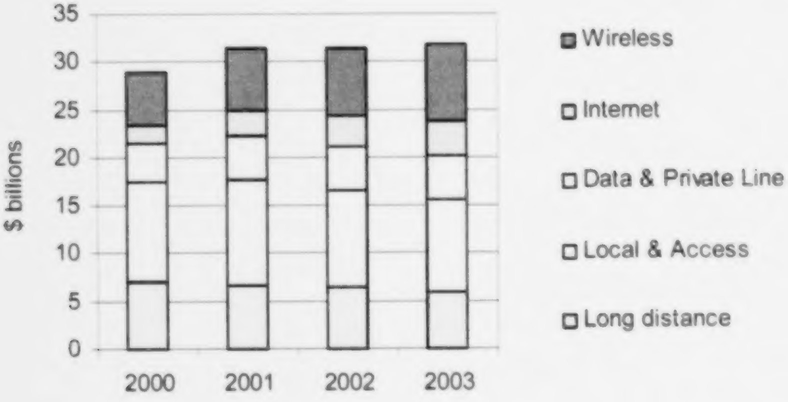
Table 4.1.2
Segmented Telecommunications Service Revenues
($ billions)

	2001	2002	2003	*Growth 2002-2003*	*CAGR 2001-2003*
Wireline					
Long distance	6.7 #	6.5 #	5.9	-9.0%	-5.8%
Local and access	11.0	10.0	9.7	-3.0%	-6.2%
Data & Private Line	4.6 #	4.5 #	4.5	-1.4%	-1.2%
Internet	2.7	3.3	3.7	11.2%	17.2%
Total Wireline	25.0 #	24.4 #	23.8	-2.4%	-2.4%
Wireless	6.4 #	7.1 #	8.0	13.3%	11.9%
Total Industry	31.4 #	31.5 #	31.8	1.1%	0.7%

Source: CRTC Data Collection

Figure 4.1.2 below shows the trend in segmented telecommunications service revenues from 2000 to 2003. Despite the declining growth rates in some wireline segments, total wireline services still represent the majority (75%) of telecommunications service revenues.

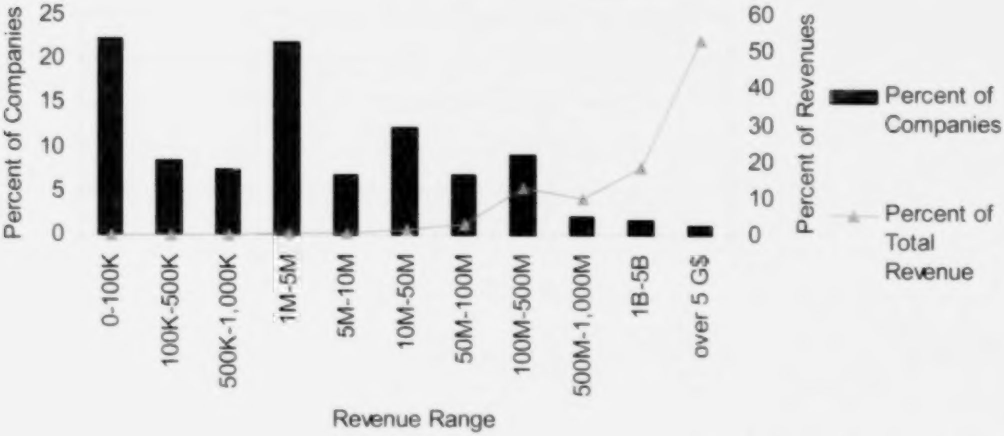
Figure 4.1.2
Segmented Telecommunications Service Revenues
($ billions)



Source: CRTC Data Collection

The Canadian telecommunications market consists of a small number of service providers that have significant degrees of market power. As is illustrated in Figure 4.1.3, approximately 5% of the companies in the telecommunications market generate approximately 70% of the revenues. Figure 4.1.3 also shows that 2% of the companies generate approximately 55% of the revenues. The next 3% generates an additional 15% of the revenues. These companies, in general, offer all types of service. Two thirds of the companies (generally resellers and small ISPs) account for a total of 1% of Canadian telecommunications revenues.

Figure 4.1.3
Distribution of Revenues



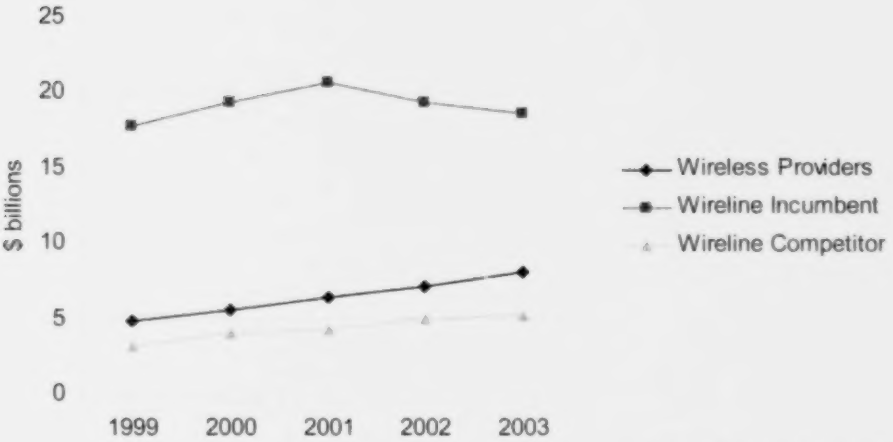
Source: CRTC Data Collection

While wireless service providers continued to increase their share of revenues, rising from 23% in 2002 to 25% in 2003, wireline incumbents, excluding the revenues generated by their wireless activities, still continued to account for the majority (61%) of Canadian telecommunications revenues in 2003. Wireline competitors accounted for the remaining 14% of the market.

Figure 4.1.4 displays Canadian telecommunications revenues between 1999 and 2003 by service provider type. Incumbents' wireline revenues decreased from $19.4 billion in 2002 to $18.6 billion in 2003. Competitor wireline revenues increased from $5.0 billion in 2002 to $5.2 billion in 2003 and wireless service providers experienced an increase in annual revenues from $7.1 billion in 2002 to $8.0 billion in 2003.

As displayed in Table 3.5.1, in 2003, facilities-based competitors generated $3.1 billion in revenues, or 10% of total industry revenues, while resellers generated $1.3 billion, or 4.1% of the industry total. Resellers are largely comprised of service providers offering long distance and/or Internet service.

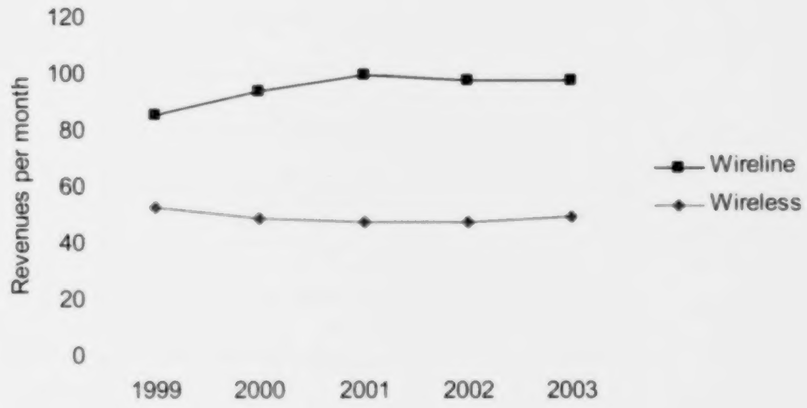
Figure 4.1.4
Total Service Revenues by Provider Type



Source: CRTC Data Collection

Figure 4.1.5 below shows that the decrease in wireline revenues was accompanied by a decrease in the average monthly revenue per line, from approximately $100 in 2001 to $97 in 2003. Monthly wireless revenue per subscriber remained relatively flat in 2003 at $49.

Figure 4.1.5
Average Monthly Revenue per Line/Subscriber



Source: CRTC Data Collection

The local and access portion of the monthly revenue per line in 2003 for wireline service providers was roughly 40% of the total monthly revenue per line. The average retail local revenue per line per month in 2003 from residential and business customers who subscribed to competitors' services was $35.73 per month, whereas those subscribing to incumbents was $36.16 per month. This difference may be attributed to the limited geographic extent to which competitors offer service. The competitors' average revenue per local line is reflective of prices for local service (including service charges) for urban centres. The incumbents' average revenue per line is reflective of both urban and rural subscribers.

Part B – Key Financial Indicators[25]

The following section provides a broader indication of the state of the Canadian telecommunications industry than can be achieved only through the study of service revenues. In addition to revenue, key indicators such as EBITDA and capital expenditures can also be used to determine the financial state of the Canadian telecommunications industry.

a) EBITDA

As shown in Figure 4.1.6, both wireline competitors and wireless providers experienced continued growth in EBITDA in 2003. Wireless providers registered a significant 38% increase in EBITDA from $2.2 billion in 2002 to $3.1 billion in 2003, increasing their share of the industry EBITDA from 19% in 2002 to 28% in 2003.

Wireline competitors' EBITDA gradually increased since 2000 from a slightly negative EBITDA to $0.6 billion in 2003, a $0.04 billion, or 8% increase over the previous year. Wireline incumbents, however, after showing a relatively flat EBITDA between $8.5 billion and $8.9 billion for the period 1998 to 2002, declined significantly to $7.2 billion in 2003, a 19% decline. This may be attributed to the decline in wireline revenues. This decline resulted in a decrease in the EBITDA for the industry as a whole from $11.6 billion to $10.9 billion which had the effect of increasing the share of wireless providers' EBITDA to 28% of the industry total. The wireline competitors' share of the industry EBITDA remained relatively unchanged at 6% while that of the wireline incumbents declined from 76% in 2002 to 66% in 2003.

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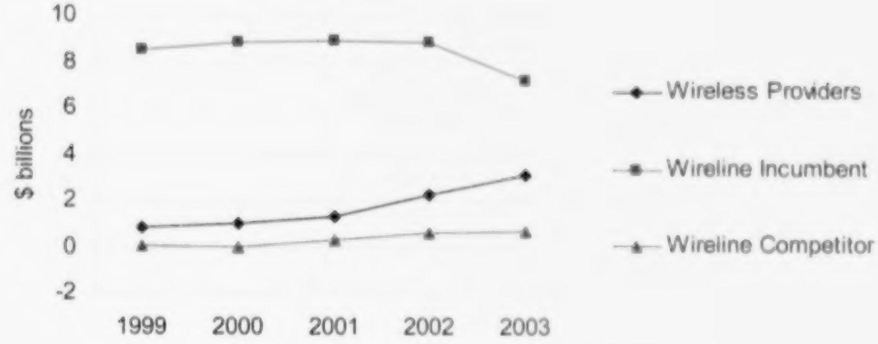
[25] It is important to note that the universe surveyed for the calculation of these metrics differs slightly from the universe surveyed in the calculation of the Telecommunications Service Revenues calculated in Tables 4.1.1 and 4.1.2. Notably, companies whose primary source of revenue is not telecommunications service have been excluded entirely, as have providers who were unable to segment the key financial data related to the telecommunications portion of their operations.

Figure 4.1.6
Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) by Provider Type



Source: CRTC Data Collection

b) Telecommunications Expenditures

The main costs of provisioning telecommunications services are capital expenditures related to the building of an entity's own facilities or inter-carrier expenses related to acquiring access to the facilities of other entities. The industry's plant-in-service in 2003 amounted to $42.7 billion, of which $33 billion or 77% was attributed to the incumbents.

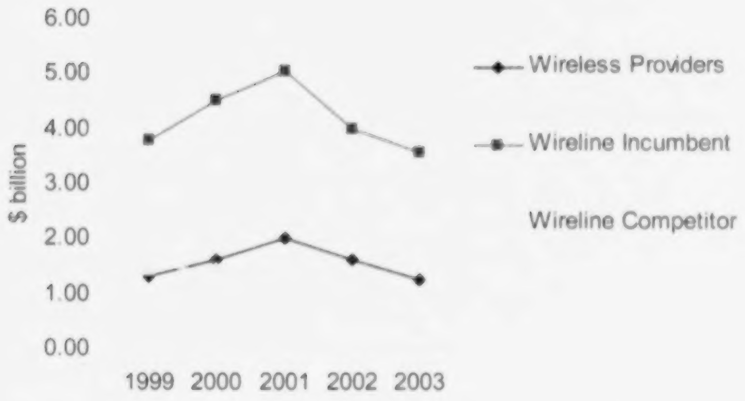
Capital expenditures in the Canadian telecommunications industry for the period 1999 to 2003 are displayed in Figure 4.1.7, by type of service provider. Total capital expenditures in the Canadian telecommunications industry were $5.2 billion in 2003, a 17% decrease from $6.3 billion in 2002. All of the providers displayed in Figure 4.1.7 reduced capital expenditures in 2003.

The competitors displayed the largest decline in capital expenditures. These expenditures declined from $0.7 billion in the previous year to $0.38 billion in 2003, a 45% decline. The decline was in large part due to major wireline competitors emerging from bankruptcy protection, placing a greater reliance on internally generated funds. Wireline incumbents' capital expenditures declined from $4.0 billion in 2002 to $3.6 billion in 2003, an 11% decrease.

Wireless capital expenditures excluding spectrum, decreased by 23% from $1.6 billion in 2002 to $1.3 billion in 2003.

Wireline incumbents accounted for $3.6 billion or 68% of industry capital expenditures in 2003 and 90% of wireline capital expenditures.

Figure 4.1.7
Capital Expenditures by Provider Type



Source: CRTC Data Collection

Capital expenditures related to access represented approximately 40% of the total 2003 capital expenditures, with 30% of access expenditures based on copper/coaxial cable and a further 10% based on fibre. Wireline incumbent spending on equipment focused on areas of future growth, with Digital Subscriber Line Access Multiplexor (DSLAM) equipment accounting for 20% of their access spending, and video distribution equipment accounting for a further 12% of their access spending.

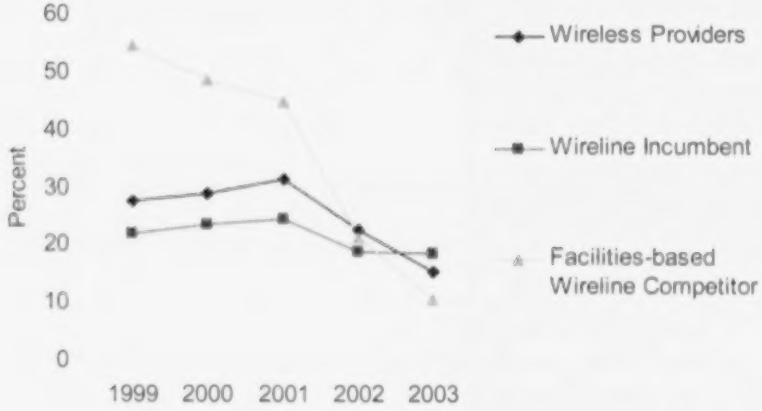
Switching and processing expenditures represented approximately 20% of total expenditures of which 23% was related to IP and VoIP soft switches and gateways.

Capital Intensity

As shown in Figure 4.1.8, the capital expenditures per revenue dollar for wireless service providers, wireline incumbents, and facilities-based wireline competitors have shifted significantly over the past five years. In 1999, facilities-based competitors' degree of capital investment relative to revenue was at 55%. This far outstripped that of wireless providers and wireline incumbents. In 2003, the facilities-based wireline competitors had the lowest rate at approximately 11%. As they emerged from bankruptcy protection, their inability to generate cash limited their ability to finance these expenditures. Wireline incumbents, however, have kept a fairly constant relationship over the past five years between their capital expenditures and revenues, ranging from a high of 24% in 2001 to a low of 19% in 2003.

Wireless providers also showed a decrease in this ratio over the past three years, dropping from 31% in 2001 to 16% in 2003. This decrease resulted from reduced expenditures and increased revenues. Roaming agreements and the focus on both additional and enhanced services, rather than coverage, account for most of the decrease.

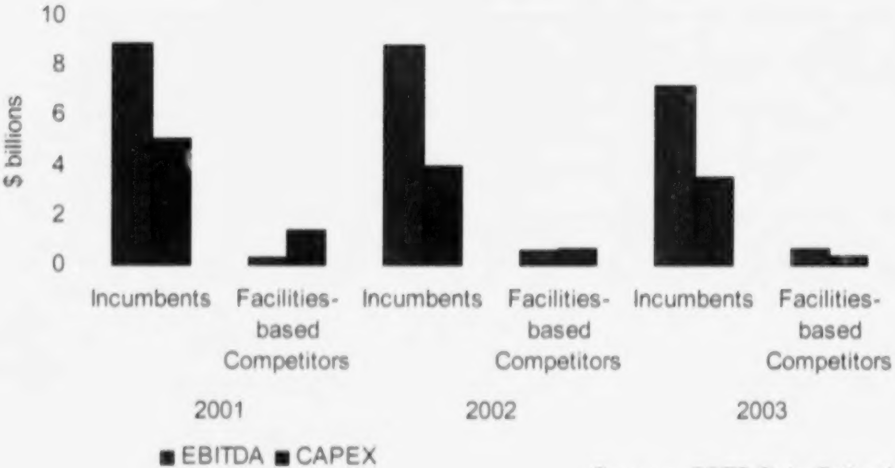
Figure 4.1.8
Capital Expenditures per Revenue Dollar



Source: CRTC Data Collection

Figure 4.1.9 compares EBITDA and capital expenditures for incumbents and facilities-based competitors for the years 2001 to 2003. The data shows that in each year the incumbents EBITDA far exceeds the capital expenditures, indicating that the incumbents are generally able to rely on internally generated funds to finance capital expenditures. This has not generally been the case with the facilities-based competitors, although in 2003 the level of capital expenditures declined to the level at which this can occur.

Figure 4.1.9
Wireline EBITDA v. Wireline Capital Expenditures (CAPEX)



Source: CRTC Data Collection

c) Inter-carrier Payments

Table 4.1.3 displays inter-carrier payments, excluding settlement, on a per revenue dollar basis for incumbents and competitors in the wireline industry by market sector. In 2003, as in the previous year, the competitors have significantly higher inter-carrier payments per revenue dollar in each segment except for Internet. The most notable change between 2002 and 2003 are with respect to competitor inter-carrier payments which, as a percent of revenues, decreased from 78% to 52% for local and from 44% to 36% for data and private line. These decreases in competitor inter-carrier payments per revenue dollar can be attributed to rate reductions for competitor services including the introduction of competitive digital network access (CDNA) service that effectively reduced the cost of DNA service to competitors between 40% and 80%, relative to the retail equivalent rate. The increase in competitor inter-carrier payments per revenue dollar for long distance from 30% to 41% may be attributed to the long distance calling plans that tend to increase long distance minutes.

Table 4.1.3
Inter-carrier Payments per Revenue Dollar
by Wireline Market Sector[26]

	Local		Long Distance		Data & Private Line		Internet		Total	
	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003
Incumbent	n/a	1%	8%	16%	29%	28%	21%	17%	9%	11%
Competitor	78%	52%	30%	41%	44%	36%	12%	17%	34%	25%

Source: CRTC Data Collection

n/a Due to residual disclosure issues, these expenses have been combined with competitors' expenses.

d) Industry Developments

A number of significant shifts in the make-up of the Canadian telecommunications market occurred during 2003 and 2004. The major players have recognised the potential impact that IP may have on their operations or networks and on the services offered. As noted previously, providers have made some expenditures on IP and virtually every major wireline provider has announced a VoIP initiative, directed at business customers, residential customers, or both.

In 2003, Bell Canada dissolved BCE Nexxia Inc. by incorporating the operations of this affiliated company within its operations. Other significant changes in the landscape resulted from alliances and acquisitions. In 2004, a number of larger competitors were acquired by regional ILECs as they continued to expand beyond their traditional territories. MTS, through its acquisition of Allstream, suddenly became the third largest service provider in the country and a national player with a presence in eastern Canada. Bell Canada strengthened its position in western Canada through the acquisition of the Canadian operations of 360networks. As part of the deal, Bell Canada will sell 360networks' eastern Canada customer base to Call-Net. Call-Net also has the option of acquiring 360networks' eastern assets from Bell Canada.

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[26] Inter-carrier expenses do not include contribution payments.

Rogers Wireless Inc. (RWI) offered to purchase the shares of Microcell. Bell Canada also assumed 100% ownership of Bell West by purchasing the remaining (40%) shares held by MTS (now MTS Allstream Inc.).

Summary

Revenues in the Canadian telecommunication industry remained relatively flat in 2003, increasing by approximately 1.1%. Within the service segments, strong growth in both the retail Internet access and wireless service revenues 11.2% and 13.3% respectively, continued in 2003. The increases in both these service segments were again mostly offset by declines in long distance (9.0%), local and access (3.0%) and in data and private line (1.4%) revenues.

Revenue per line per month for wireline service providers decreased from $100 in 2001 to $97 in 2003, a 3% reduction. Monthly wireless revenues per subscriber remained relatively flat in 2003, at $49.

The wireline share of the telecommunications service revenues continued to decrease from 77% in the previous year to 75% in 2003 due to the strong growth of the wireless industry. Wireline incumbents continued to have the largest portion (75%) of total telecommunications revenues.

The industry EBITDA declined 6% in 2003. The wireline share of the industry EBITDA decreased from 81% in 2002 to 72% in 2003, as wireless increased its EBITDA from $2.2 billion in 2002 to $3.1 billion in 2003. Although wireline competitors increased their revenues and EBITDA, wireline incumbents continue to have the lion's share of wireline revenues and EBITDA.

Total capital expenditures in the Canadian telecommunications industry were $5.2 billion in 2003, a 17% decrease from 2002. A decrease in capital expenditures of 45% for competitors in 2003 was in large part due to the major wireline competitors being under bankruptcy protection in 2002. A review of the major companies' quarterly financial statements indicates that capital expenditures are trending upwards in 2004. With the expected move to IP technologies and the growth of IP-based networks, companies are anticipating lower operating costs that will improve operating margins. The competitive market may put pressure on the incumbents and competitors to share some of these cost savings with consumers in the form of lower prices.

4.2 Long Distance

Highlights

- Long distance revenues, including both retail and wholesale, declined from $6.5 billion in 2002 to $5.9 billion in 2003 a 9.0% reduction.
- Long distance minutes continued to grow, increasing from 54.8 billion in 2002 to 55.8 billion in 2003 a 1.8% increase.
- Competitors' long distance revenues decreased 2.4% in 2003, whereas the incumbents' revenues decreased by 11.6%. As a result, the competitors' share of long distance revenues grew from 28.0% in 2002 to 30.1% in 2003 while the incumbents share declined from 72.0% to 69.9%.
- Within the retail market, competitors held 30.3% of the long distance revenues in 2003, up from 29.0% in the previous year while the incumbents held 69.7% down from 71.0%.

Sector Description

a) Description of Services

The long distance market segment encompasses wireline voice traffic to a location outside the local service calling area. Wireline toll services are sold in a variety of fashions, ranging from a standard per minute charge to a monthly fixed charge plan provided by a pre-selected Primary Inter-exchange Carrier (PIC), to the use of dial-around services that bypass the PIC'd carrier to use another long distance service provider's services. Long distance traffic was also traditionally transmitted via the circuit switched network. However, recent developments in IP technologies have allowed for some carriers to begin using this technology for the carriage of long distance voice traffic.

b) Markets and Observations

Table 4.2.1 provides long distance revenues and minutes for the period 2000 to 2003. Revenues include retail revenues from long distance services sold to the residential and business customer, wholesale revenues for long distance traffic sold to other service providers for the purposes of resale, and settlement revenues paid to carriers for the transport of traffic outside a service providers' operating territory. Long distance minutes include both retail and wholesale minutes, but exclude minutes associated with domestic and international settlement revenues.

Table 4.2.1
Long Distance Market

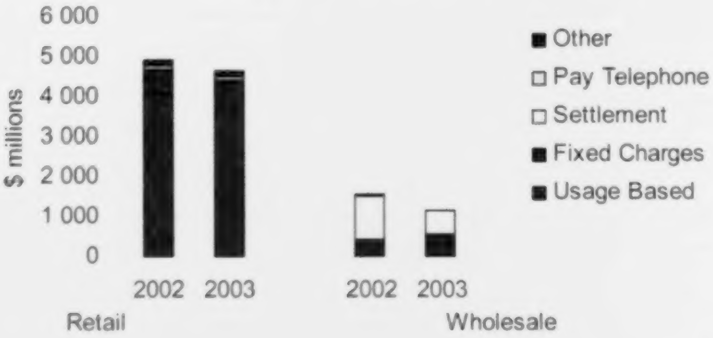
	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 2000 - 2003*
Revenues ($ millions)	7,126 #	6,700 #	6,534 #	5,944	*-9.0%*	*-5.9%*
Minutes (millions)	50,885 #	52,977 #	54,835 #	55,820	*1.8%*	*3.1%*

Source: CRTC Data Collection

New lower cost technologies have improved the operating margins of long distance service providers. However, competitive pressure has transferred some of these savings to consumers in the form of lower long distance prices resulting in lower revenues but higher long distance minutes.

Figure 4.2.1 outlines the long distance revenue components for long distance split between retail and wholesale, for the period 2002-2003. Retail revenues constituted 81% of total long distance revenues in 2003, up from 76% in 2002. Of retail revenues, fixed charges, in the form of subscription plan fees, grew from 12% of retail revenues in 2002, to 18% in 2003. Inversely, usage-based revenues declined by a similar percentage. Wholesale revenues, over the same period, decreased from 24% of long distance revenues in 2002, to 19% in 2003. Settlements, which constitute the major portion of wholesale revenues, declined from $1.1 billion in revenues, or 72% of wholesale, to $0.6 billion, or 51% in 2003.

Figure 4.2.1
Long Distance Revenues by Component



Source: CRTC Data Collection

c) ***Sector Participants***

The market participants primarily include the large incumbent telephone companies, several facilities-based carriers providing both local and switched long distance services, and a variety of resellers who either resell long distance service or provide long distance service using facilities typically purchased from either the incumbent or inter-exchange facilities-based carriers.

While retail long distance customers pre-select their PIC for long distance traffic, customers also have the option of using alternative carriers, by "dialing around" their PIC carrier. This option is typically provided via either prepaid card or dial-around service providers. In 2003, revenues from these services constituted approximately 6% of retail long distance revenues.

d) Regulatory Framework

Competition in the long distance market began in 1990 with the resale of certain switched long distance services (Decision 90-3).[27] In 1992, the market was further opened to include facilities-based carriers (Decision 92-12).[28] In 1998, pursuant to Decision 97-19,[29] the Commission forbore from regulating the incumbents' long distance service rates, with the exception of Northwestel, with certain conditions imposed on the incumbents, most notably price ceilings applying to each basic long distance rate schedule.

Since its inception, the competitive environment has gone through numerous changes, from the initial influx of facilities-based and resale competitors, through a period of consolidation and focus on specific market segments. Through all of this, long distance customers benefited from continual reductions of long distance rates, in combination with a host of discount plans and options to meet their particular needs.

e) Regulatory Developments

Within the long distance market, the Commission has forborne from regulation through a series of decisions that addressed various market players and market segments (Decision 94-19,[30] Decision 97-10,[31] Order 99-1202[32]).

While the Commission has forborne from regulating the long distance market, it continues to regulate the local and access market, which impacts the competitive long distance carrier's cost to interconnect with an incumbent local exchange carrier's (ILEC's) facilities. In May 2002, the Commission issued Decision 2002-34, which reset the direct connect rates that competitors pay to the ILECs to originate and terminate long distance traffic with the local exchange carriers' (LEC's) local customers from a national rate of 0.3 cents per minute per end (excluding SaskTel, which was set at 0.5 cents), to ILEC territory-specific rates, that ranged from 0.128 cents in Bell Canada's territory, to 0.439 cents for SaskTel's territory.

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[27] *Resale and sharing of private line services*, Telecom Decision CRTC 90-3, 1 March 1990.

[28] *Competition in the provision of public long distance voice telephone services and related resale and sharing issues*, Telecom Decision CRTC 92-12, 12 June 1992.

[29] *Forbearance – Regulation of toll services provided by incumbent telephone companies*, Telecom Decision CRTC 97-19, 18 December 1997.

[30] *Review of regulatory framework*, Telecom Decision CRTC 94-19, 16 September 1994.

[31] *Teleglobe Canada Inc. – Resale and sharing of international private line services*, Telecom Decision CRTC 97-10, 5 May 1997.

[32] *Forbearance for agreements between domestic and foreign common carriers*, Telecom Order CRTC 99-1202, 22 December 1999.

In December 2003, the Commission again revised the direct connect rates in Decision 2003-83,[33] decreasing the rates on an ILEC-by-ILEC basis, to rates that ranged from 0.108 cents for Bell Canada, to 0.208 cents for SaskTel. TELUS's rates were not part of this decision and remained at rate levels of 0.209 cents for Alberta and 0.181 cents for B.C., as set in Decision 2003-12-1.[34]

The reductions in the direct connect and related rates, provided long distance competitors with continued cost savings.

Market Segments

Long Distance

Table 4.2.2 presents a summary of long distance revenues by residential, business and wholesale sectors for the period 2000 to 2003.

Table 4.2.2
Long Distance Revenues by Market Segment
($ millions)

	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 2000 - 2003*
Residential	3,211 #	3,007 #	3,038 #	3,013	*-0.8%*	*-2.1%*
Business	2,209	2,081	1,970 #	1,777	*-9.8%*	*-7.0%*
Wholesale	1,706	1,612	1,526	1,154	*-24.4%*	*-12.2%*
Total	7,126 #	6,700 #	6,534 #	5,944	*-9.0%*	*-5.9%*

Source: CRTC Data Collection

For the period 2002 to 2003, overall long distance revenues declined by 9.0% in total, to $5.9 billion. The largest decline was experienced within the wholesale market, which includes settlement payments between carriers for transmission and/or termination of another carrier's billed traffic. Wholesale revenues declined by 24.4%, or $0.4 billion, in part due to carriers continuing to lower settlement and wholesale rates for the transport and termination of long distance traffic. Overall, as a percentage of total long distance revenues, wholesale revenues were 19.4% in 2003, down from 23.3% in 2002.

Within the retail market, business revenues declined in 2003, by 9.8%. This decline in revenues can be attributed, in large part, to competitive pricing pressures among carriers. Overall, as a percentage of total long distance revenues, business revenues in 2003 showed a slight decrease, from 30.1% in 2002 to 29.9% in 2003.

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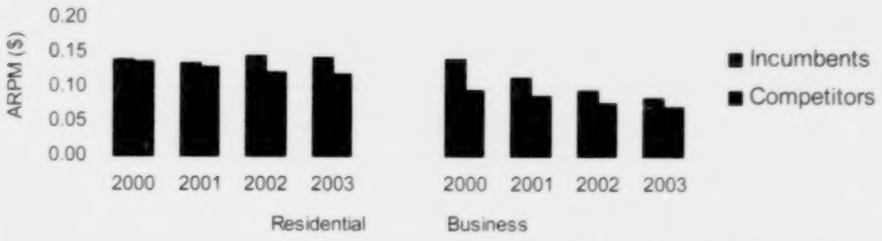
[33] *Direct Connection service*, Telecom Decision CRTC 2003-83, 17 December 2003.

[34] *Rates for co-location floor space, Direct Connection service, Wireless Access Service: Line-side Access services and Wireless Service Providers Enhanced Provincial 9-1-1 Network Access service*, Telecom Decision CRTC 2003-12-1, 19 November 2003.

Residential revenues had a small decline in 2003, of 0.8%. The decline was primarily the result of continuing reductions in pricing, though residential rates declined less than business rates. As a percentage of overall long distance revenues, residential revenues were 50.7% in 2003, up from 46.6% in 2002.

Overall average revenues per minute for retail traffic declined for both residential and business customers in 2003, as incumbents and competitors alike continued to use pricing in an effort to gain customers. The business customer also continued to enjoy a sizable price advantage over the residential customer, as the major providers continued to target high volume enterprises and large business customers with lower rate structures. The average revenue per minute (ARPM) rate for residential and business traffic is illustrated in Figure 4.2.2.

Figure 4.2.2
Retail Average Revenue per Minute (ARPM)



Source: CRTC Data Collection

Table 4.2.3 provides the major incumbent telephone companies' retail market shares in 2002 and 2003, measured in terms of retail business and residential long distance revenues, in their traditional operating territories.

Table 4.2.3
Incumbent Telephone Companies' Long Distance Revenue Market Share by Region

Region	Percent	
	2002	2003
BC, Alberta	75%	72%
Saskatchewan	82%	82%
Manitoba	78%	76%
Ontario, Quebec	67%	66%
Atlantic	71%	71%

Source: CRTC Data Collection

Retail Long Distance – Business Market

Business long distance revenues in 2003 equalled $1.8 billion, down 9.8% from 2002. Associated traffic remained relatively stable in 2003 versus 2002, at 22.5 billion minutes, though the competitors carried a greater portion of these minutes in 2003 than in the previous year. The decline in business revenues in 2003, with minimal change in minutes, is seen as a reflection of the continued use of pricing to lure business customers in order to gain market share. The impact of price competition is reflected in the average rate per minute continuing its downward trend, declining by approximately 10% in 2003, which resulted in the overall drop in revenues as noted above.

Tables 4.2.4 and 4.2.5 reflect the trends in long distance business revenues and minutes, respectively, for the period 2000 to 2003.

Table 4.2.4
Long Distance Business Revenues
($ millions)

	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 2000 - 2003*
Incumbents	1,376	1,281	1,193	1,039	*-12.9%*	*-8.9%*
Competitors	833	800	777 #	738	*-5.0%*	*-4.0%*
Total	2,209	2,081	1,970 #	1,777	*-9.8%*	*-7.0%*

Source: CRTC Data Collection

Table 4.2.5
Long Distance Business Minutes
(Millions)

	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 2000 - 2003*
Incumbents	9,881	11,405	12,632	12,198	*-3.4%*	*7.3%*
Competitors	8,805	9,310	9,768	10,334	*5.8%*	*5.5%*
Total	18,685	20,714	22,401	22,532	*0.6%*	*6.4%*

Source: CRTC Data Collection

The incumbents business long distance revenues declined by 12.9% in 2003 over 2002, to $1.0 billion, while competitors' revenues declined by 5.0% to $0.7 billion over the same period. With reference to business long distance minutes, the incumbents declined by 3.4% to 12.2 billion minutes overall, while the competitors' minutes increased by 5.8% to 10.3 billion. The change in relative revenues to minutes reflected an overall decrease in ARPMs for both incumbents and competitors of approximately 10%.

As a result of the greater decline in overall business long distance revenues by the incumbents in 2003, the competitors' market share increased from 39.4% in 2002 to 41.5% in 2003.

Retail Long Distance – Residential Market

Residential long distance revenues in 2003 equalled $3.0 billion, down 0.8% from the previous year. Residential long distance minutes are up in 2003, increasing 2.0% overall to 22.4 billion minutes. The increase in residential long distance minutes is primarily due to growth in competitor traffic, while incumbents' minutes remained relatively stable over the same period.

Tables 4.2.6 and 4.2.7 reflect the trends in long distance residential revenues and minutes, respectively, for the years 2000 to 2003.

Table 4.2.6
Long Distance Residential Revenues
($ millions)

	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 2000 - 2003*
Incumbents	2,536	2,374	2,362	2,301	*-2.6%*	*-3.2%*
Competitors	675 #	633 #	676 #	712	*5.3%*	*1.8%*
Total	3,211 #	3,007 #	3,038 #	3,013	*-0.8%*	*-2.1%*

Source: CRTC Data Collection

Table 4.2.7
Long Distance Residential Minutes
(Millions)

	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 2000 - 2003*
Incumbents	18,280	17,814	16,305	16,300	*0.0%*	*-3.8%*
Competitors	4,899 #	4,958 #	5,622 #	6,061	*7.8%*	*7.3%*
Total	23,180 #	22,773 #	21,928 #	22,361	*2.0%*	*-1.2%*

Source: CRTC Data Collection

The incumbents' residential long distance revenues declined by 2.6% in 2003 over the previous year, to $2.3 billion, while competitors experienced a 5.3% increase over the same period, to $0.7 billion. With reference to residential long distance minutes, the incumbents remained relatively stable at 16.3 billion minutes overall, while the competitors' minutes increased by 7.8%, to 6.1 billion.

While residential minutes have grown overall by 2.0%, this growth is primarily with the competitors, as customers continue to take advantage of competitor offerings.

As a result of the growth in residential long distance revenues by the competitors, their market share grew from 22.3% in 2002 to 23.5% in 2003.

Wholesale Long Distance

Wholesale long distance represents services provided by long distance carriers to other long distance service providers. These services include connection arrangements between facilities-based carriers to transit and/or terminate traffic on behalf of another provider, exclude originating and terminating traffic on the local networks, and the sale of wholesale bulk minutes to resellers of long distance service. In 2003, wholesale long distance revenues accounted for $1.2 billion, down $0.4 billion or 24.4% from 2002.

Table 4.2.8 reflects the trend in wholesale long distance revenues for the period 2000 to 2003.

Table 4.2.8
Wholesale Long Distance Revenues
($ millions)

	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 2000 - 2003*
Incumbents	1,076	1,194	1,149	817	*-28.9%*	*-8.8%*
Competitors	630	418	377	337	*-10.6%*	*-18.8%*
Total	1,706	1,612	1,526	1,154	*-24.4%*	*-12.2%*

Source: CRTC Data Collection

Incumbents' wholesale long distance revenues declined by $0.33 billion, or 28.9%, as compared to the decrease in competitors' revenues of $0.04 billion, or 10.6%.

With respect to settlement, both incumbents and competitors experienced decreases in settlement related revenues, which declined from $1.1 billion in 2002, to $0.6 billion in 2003, a 43.4%[35] decrease. The decreases in settlement revenues can be attributed in part to reductions in settlement rates, and reduced reliance on Canadian wholesale providers to complete international calls.

As a result of the significant declines in the incumbent wholesale and settlement revenues, the competitor market share of wholesale long distance revenues grew from 24.7% in 2002 to 29.8% in 2003.

Summary

Overall, wireline long distance revenues continue to decrease annually, primarily due to pricing pressures caused by competition. In this regard, incumbent revenues declined to a larger degree in 2003, as competitors appear to have been more aggressive in attempting to gain market share after several companies emerged from corporate restructuring in late 2002 and early 2003.

For 2004, the long distance landscape will continue to experience changes, as two major competitors, Allstream (now MTS Allstream Inc.) and the Canadian assets of 360networks, were purchased by incumbents MTS (now MTS Allstream Inc.) and Bell Canada, respectively. Call-Net purchased 360networks' eastern customer base with the option to acquire the eastern assets as well from Bell Canada. The bundling of long distance with services such as Internet, mobile, and video/cable by major players will also continue to put downward pressure on long distance rates in 2004, while the introduction of subscription fee charges to the business customer may partially offset these negative revenue impacts.

The emergence of IP technology may have a greater impact on long distance services. In the interim, the growing use of IP networks to transmit long distance traffic, with their lower cost structure, may increase the service providers' long distance margins. The competitive market may put pressure on the service providers to pass on some of these cost savings to consumers in the form of lower long distance rates. The extent to which these IP networks and services roll out in 2004 and future years will determine their overall impact on long distance services in the years to come.

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[35] Source: CRTC Data Collection.

4.3 Local and Access

Highlights

- Local and access revenues declined from $10.0 billion in 2002 to $9.7 billion in 2003, a 3.0% decline.
- The total number of local lines increased from 20.6 million lines in 2002 to 20.7 million lines in 2003, a 0.2% increase.
- The number of residential lines decreased from 12.91 million lines in 2002 to 12.89 million lines in 2003, a 0.2% decline, while the number of business lines decreased from 7.02 million lines to 7.00 million lines, a 0.3% decline and the number of wholesale lines increased from 0.52 million lines to 0.61 million lines, a 17% increase.
- Competitors' share of retail lines increased from 3.9% in 2002 to 4.3% in 2003.
- Competitors' share of residential lines increased from 1.4% in 2002 to 2.0% in 2003; while their share of business lines remained relatively stable at 8.6%.
- Competitors' share of local residential revenues increased from 1.1% in 2002 to 1.9% in 2003, while their share of business revenues decreased from 8.1% to 7.9%.

Sector Description

a) Description of Services

Local wireline telephone service is the basis for voice telecommunications services for residences and businesses in Canada. Local service has traditionally been characterized as basic phone service utilizing a telephone set that is wired to the carriers' network, that for a basic monthly fee, provides unlimited access to calls within a local exchange area. Over time, local service has grown to include a variety of other services such as automated call answering services, business Centrex, Integrated Services Digital Network (ISDN) services, and other user services such as inside wiring installation and repair, teleconferencing and miscellaneous local services. It also includes the sale of local services on a wholesale basis as well as charges to competitors to interconnect with the local network.

With the advent of local competition in 1997, local service revenues have also evolved to include revenues from services provided to competitors to access the local network, including unbundled loops which are the telephone wires between customers and the incumbent telephone company's central office. There are also revenues from interconnection services such as switching and aggregation, a tariff interconnection charge which service providers must pay to local service providers to allow them to load public switched telephone network (PSTN) traffic off their networks onto the other providers' networks.

Two categories of local and access revenues are included in the overall segment revenues reported in Table 4.3.1, but excluded from the remaining tables in the local and access section of this report, namely, revenues from local pay telephone services and contribution revenues. Local pay telephones are public telecommunications terminals which provide coin or card-based billing on a per-transaction basis as discussed in section 4.8. Contribution revenues currently represent subsidies received by local exchange carriers (LECs) to support local service in high-cost serving areas.

Revenues from the sale of wireline terminal equipment, such as telephone handsets and private branch exchange (PBX) switching equipment, are excluded from the local and access revenues covered in this report.

b) Markets and Observations

Table 4.3.1 provides results for total local and access revenues and lines for the period 1999 to 2003.

Table 4.3.1
Total Local and Access Revenues and Lines

	1999	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 1999 - 2003*
Total Local and Access Revenues ($ millions)	9,730	10,345	11,023	10,003	9,699	*-3.0%*	*-0.1%*
less: Contribution Revenues ($ millions)	904	957	1,002	250	247	*-1.3%*	*-27.7%*
Local and Access Service Revenues ($ millions)	8,826	9,388	10,021	9,753	9,452	*-3.1%*	*1.7%*
Lines (000's)	20,380	20,840	21,126	20,622	20,664	*0.2%*	*0.3%*

Source: CRTC Data Collection

Total local and access revenues in Table 4.3.1 include local and access monthly rates and service charges, contribution, and local pay telephone services. Local lines in Table 4.3.1 include local pay telephones as well as lines provided on a wholesale basis to affiliated companies and third party providers of telecommunications services. All other tables and figures in this section, unless otherwise noted, exclude revenues from contribution, as well as pay telephone lines and revenues.

Between 2002 and 2003, local and access service revenues declined 3.0%, from $10.0 billion in 2002 to $9.7 billion in 2003. The decrease was primarily experienced by the ILECs within their wholesale and business operations. Local and access lines experienced a minor increase of 0.2% from 2002 to 2003.

c) Sector Participants

The large ILECs operate in most areas of the country. Small ILECs operate in limited areas of Ontario, Quebec, and B.C., and include certain municipally-owned carriers. The ILECs operate, to a large extent, in their original operating territories, though in recent years a few have expanded to other regions, either directly or through affiliate operations.

There has been a limited amount of competitor penetration in the local and access segment since the introduction of local competition in 1997. Competitors have typically been facilities-based service providers, who own a portion of their PSTN network facilities, or resellers of Centrex service purchased from either the incumbent carriers or, to a limited extent, other facilities-based competitors. There has also been very limited market entry by cable service providers, and by utility telcos who can offer services using their existing infrastructure. Some ILECs have also expanded outside of their traditional serving territories, providing competition either directly or through affiliate companies. Within this report, these operations are referred to as out-of-territory.

Competitor entry has generally focused on the local business market in larger urban centres, although there was some penetration in the local residential market in a limited number of cities.

d) Regulatory Framework

Local telephone service in the territories of the large ILECs (excluding the territories of Northwestel, Télébec and TELUS Québec) was opened to facilities-based competition in 1997. Local services provided by ILECs to consumers as well as the interconnection services provided by all LECs continue to be regulated by the Commission. Prior to the introduction of local competition, ILECs were subject to a rate-of-return regulatory framework, under which local service prices were set based on a revenue requirement basis using a rate of return approved by the Commission. (Note: Local competition is not allowed in the operating territory of Northwestel).

Rate-of-return regulation was replaced in 1998 by price cap regulation. Price cap regulation uses a formula approach to determine the maximum allowable prices for different baskets of services. Price cap regulation is recognized as being more effective than rate-of-return regulation in that ILECs are provided with stronger incentives to minimize costs, operate more efficiently and be more innovative in the provision of services.

e) Regulatory Developments in the Past Year

In the local and access market, there were several significant regulatory decisions that impacted the competitive environment. These decisions relate to both Commission and federal government concerns over the limited level of competition within the local market, and the need to address ways of removing barriers to local competition.

In May 2002, the Commission issued Decision 2002-34, which, among other things, reset the direct connect rates that competitors pay to interconnect long distance traffic with the ILEC's network from a national rate of 0.3 cents per minute per end (excluding SaskTel, which was set at 0.5 cents), to ILEC-specific rates, that ranged from 0.128 cents for Bell Canada, to 0.439 cents for SaskTel. In December 2003, these rates were again revised in Decision 2003-83, decreasing the rates on an ILEC by ILEC basis, to rates that ranged from 0.108 cents for Bell Canada, to 0.208 cents for SaskTel. TELUS' rates were not part of this decision and remained at rate levels of 0.209 cents for Alberta and 0.181 cents for B.C., as set in Decision 2003-12-1.

In January 2003, the Commission issued Public Notice 2003-1,[36] in which it initiated a review of winback promotions. In March 2003, the Commission issued Public Notice 2003-1-1,[37] in which it ordered the suspension of all promotions involving local wireline service, until a decision is issued on the matters raised in Public Notice 2003-1.

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[36] *Review of winback promotions*, Telecom Public Notice CRTC 2003-1, 15 January 2003.

[37] *Review of promotions*, Telecom Public Notice CRTC 2003-1-1, 13 March 2003.

In June 2003, the Commission issued Decision 2003-45[38] in which it established the conditions and principles for the provision of telecommunications services to customers located in multi-dwelling units (MDUs), including guidelines to assist building owners and local exchange carriers in negotiating just and expedient conditions of access to MDUs.

In December 2003, the Commission issued Public Notice 2003-10,[39] which involved the review of price floor safeguards for retail tariff services, and the issue of whether the ILECs should be prohibited from bundling local exchange service with forborne services.

Market Segments

Table 4.3.2 presents a summary of local and access revenues segmented on a residential, business and wholesale basis for the period 1999 to 2003. As mentioned previously, revenues from contribution and pay telephone services are not included in the following tables. Table 4.3.3 provides the number of local lines that correspond to these market segments.

Table 4.3.2
Local and Access Revenues by Major Market Segment
($ millions)

	1999	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 1999 - 2003*
Residential	4,421	4,833	5,060	5,140	5,132	*-0.2%*	*3.8%*
Business	3,637	3,769	3,946	3,544	3,398	*-4.1%*	*-1.7%*
Wholesale	577	636	740	893	755	*-15.5%*	*7.0%*
Total	8,635	9,238	9,746	9,577	9,285	*-3.0%*	*1.8%*

Source: CRTC Data Collection

Table 4.3.3
Local Lines by Major Market Segment
(Thousands)

	1999	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 1999 - 2003*
Residential	12,772	12,909	12,920	12,913	12,886	*-0.2%*	*0.2%*
Business	7,080	7,378	7,561	7,024	7,004	*-0.3%*	*-0.3%*
Wholesale	350	381	474	521	611	*17.3%*	*15.0%*
Total	20,202	20,668	20,955	20,458	20,502	*0.2%*	*0.4%*

Source: CRTC Data Collection

In 2003, local and access revenues (excluding contribution, terminal equipment and pay telephone revenues) decreased by 3.0%. All sectors of the local market experienced decreases in 2003, most notably wholesale revenues by 15.5%, and business revenues by 4.1%. The decline in wholesale revenues is in large part due to decreasing incumbent carriers interconnection revenues in 2003, primarily due to associated rate decreases.

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[38] *Provision of telecommunications services to customers in multi-dwelling units,* Telecom Decision CRTC 2003-45, 30 June 2003.

[39] *Amendments to Telecom Public Notice CRTC 2003-8, Review of price floor safeguards for retail tariffed services and related issues,* Telecom Public Notice CRTC 2003-10, 8 December 2003.

Over the same period, the number of local lines increased by 0.2% to 20.5 million lines in 2003. The increase was primarily due to an increase in wholesale lines as a result of corporate restructurings by certain telecommunications service providers, without which the year-over-year change would be minimal. The retail sector experienced minor decreases in lines in 2003 which attributed in part to the decline in associated revenues. The wholesale sector experienced an increase in the number of local lines from 0.52 million lines in 2002 to 0.61 million lines in 2003, a 17% increase.

Market Share by Province

Table 4.3.4 shows the major incumbent carriers share of local lines (including wholesale lines provided to affiliates) by province. The incumbents' out-of-territory local operations are not included in the incumbent market share.

Table 4.3.4
Incumbent Local Market Share by Province (lines)

Province	2000	2001	2002	2003
British Columbia	97.3%	97.2%	96.0%	92.7%
Alberta	97.4%	96.5%	94.2%	94.0%
Saskatchewan	100.0%	100.0%	100.0%	100.0%
Manitoba	98.7%	98.2%	98.1%	97.6%
Ontario	94.2%	94.4%	93.3%	92.2%
Quebec	97.6%	96.9%	96.7%	95.6%
New Brunswick	99.8%	99.8%	99.8%	99.7%
Nova Scotia	99.2%	94.9%	92.0%	89.5%
Prince Edward Island	100.0%	99.5%	95.7%	93.9%
Newfoundland and Labrador	98.9%	98.1%	97.2%	93.8%

Source: CRTC Data Collection

At the national level, local wireline competitors, including out-of-territory incumbents, made progress, as their market share of local lines increased from 5.1% in 2002 to 6.3% in 2003.

Table 4.3.5
Market Share (Local Lines) in Major Centres[40]

Province	City	Business Lines		Residential Lines		Total Lines	
		2002	2003	2002	2003	2002	2003
British Columbia	Vancouver						
	Incumbents	87.7%	73.1%	98.1%	96.9%	93.3%	87.6%
	Out-of-territory incumbents	2.2%	17.0%	0.0%	0.0%	2.0%	6.2%
	Competitors	10.1%	9.9%	1.9%	3.1%	4.7%	6.3%
	Victoria						
	Incumbents	90.4%	89.2%	100.0%	100.0%	97.2%	96.1%
	Out-of-territory incumbents	1.6%	2.6%	0.0%	0.0%	0.4%	0.7%
	Competitors	8.0%	8.2%	0.0%	0.0%	2.4%	3.2%
Alberta	Calgary						
	Incumbents	85.5%	84.1%	96.9%	94.9%	89.4%	90.5%
	Out-of-territory incumbents	4.8%	6.3%	0.0%	0.0%	5.0%	2.4%
	Competitors	9.7%	9.5%	3.1%	5.1%	5.6%	7.2%
	Edmonton						
	Incumbents	84.2%	79.7%	100.0%	100.0%	94.0%	91.6%
	Out-of-territory incumbents	8.0%	13.0%	0.0%	0.0%	3.0%	5.0%
	Competitors	7.8%	7.3%	0.0%	0.0%	3.0%	3.5%
Saskatchewan	Saskatoon						
	Incumbents	99.9%	99.9%	100.0%	100.0%	100.0%	100.0%
	Competitors	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
	Regina						
	Incumbents	99.9%	99.9%	100.0%	100.0%	100.0%	100.0%
	Competitors	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Manitoba	Winnipeg						
	Incumbents	92.5%	92.4%	100.0%	100.0%	97.2%	96.7%
	Competitors	7.5%	7.6%	0.0%	0.0%	2.8%	3.3%
Ontario	Toronto						
	Incumbents	82.1%	81.3%	95.9%	94.0%	89.7%	88.7%
	Out-of-territory incumbents	1.9%	1.9%	0.0%	0.1%	0.9%	1.0%
	Competitors	16.0%	16.8%	4.1%	5.9%	9.4%	11.1%
	Ottawa-Gatineau						
	Incumbents	91.9%	91.3%	99.1%	98.4%	95.4%	94.8%
	Competitors	8.1%	8.7%	0.9%	1.6%	4.6%	5.2%
	Hamilton						
	Incumbents	87.1%	85.6%	98.4%	96.8%	94.3%	92.4%
	Out-of-territory incumbents	0.4%	0.8%	0.0%	0.0%	0.1%	0.2%
	Competitors	12.6%	13.6%	1.6%	3.2%	5.6%	7.3%
	London						
	Incumbents	85.9%	84.8%	97.9%	96.4%	93.7%	91.8%
	Competitors	14.1%	15.2%	2.1%	3.6%	6.3%	8.1%
	Kitchener						
	Incumbents	84.4%	84.0%	97.9%	96.4%	93.4%	91.4%
	Out-of-territory incumbents	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
	Competitors	15.4%	15.8%	2.1%	3.6%	6.6%	8.6%
	St Catharines-Niagara						
	Incumbents	87.8%	86.1%	100.0%	100.0%	96.3%	95.5%
	Competitors	12.2%	13.9%	0.0%	0.0%	3.7%	4.5%
	Windsor						
	Incumbents	80.5%	82.9%	100.0%	100.0%	94.2%	94.3%
	Competitors	19.5%	16.7%	0.0%	0.0%	5.8%	5.6%
	Oshawa						
	Incumbents	90.7%	88.6%	97.5%	96.6%	95.2%	93.7%
	Competitors	9.3%	11.3%	2.5%	3.4%	4.8%	6.3%
Quebec	Montréal						
	Incumbents	86.7%	87.8%	100.0%	98.3%	93.8%	94.1%
	Out-of-territory incumbents	2.7%	3.0%	0.0%	0.0%	0.8%	0.9%
	Competitors	10.6%	9.3%	0.0%	1.7%	5.4%	5.0%
	Québec						
	Incumbents	83.4%	83.8%	100.0%	100.0%	94.1%	94.5%
	Out-of-territory incumbents	4.2%	5.5%	0.0%	0.0%	1.3%	1.6%
	Competitors	12.4%	10.7%	0.0%	0.0%	4.6%	3.9%
New Brunswick	Fredericton						
	Incumbents	99.9%	99.9%	100.0%	100.0%	100.0%	100.0%
	Competitors	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%
Nova Scotia	Halifax						
	Incumbents	94.5%	88.9%	87.3%	82.4%	90.3%	85.1%
	Competitors	5.5%	11.1%	12.7%	17.6%	9.7%	14.9%
Prince Edward Island	Charlottetown						
	Incumbents	99.9%	91.4%	89.5%	84.1%	93.6%	87.3%
	Competitors	0.1%	8.6%	10.5%	15.9%	6.4%	12.7%
Newfoundland and Labrador	St John's						
	Incumbents	89.7%	89.6%	100.0%	100.0%	96.1%	92.5%
	Competitors	10.3%	10.4%	0.0%	0.0%	3.9%	7.5%

Source: CRTC Data Collection

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[40] Major centres as defined by census metropolitan areas (CMAs).

Table 4.3.5 provides further information on market share, measured in terms of the number of local lines, for a list of major Canadian cities by province. For several cities, competition by out-of-territory incumbents was negligible or non-existent, and this indicator was removed from the table in those cities.

As demonstrated in Table 4.3.5, the higher levels in competitors' share of local lines within major urban centres, compared to the provincial results presented in Table 4.3.4, demonstrate that competitors have targeted primarily the major centres in Canada in their entry strategies for the local market.

Local Business Market

For 2003, the local business market continued to decline in terms of both revenues and number of lines. The lack of growth in business lines has been identified by some incumbents as due to businesses rationalizing lines. This lack of growth, is reflected in increased pressure on local wireline business revenues. Overall, the number of lines declined by 0.3% from 2002 to 2003, while revenues declined by 4.1% over the same period.

Tables 4.3.6 and 4.3.7 present local business revenues and lines, respectively, for 1999 to 2003.

Table 4.3.6
Local Business Revenues[41]
($ millions)

	1999	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 1999 - 2003*
Incumbents	3,531	3,619	3,736	3,258	3,128	*-4.0%*	*-3.0%*
Competitors	106	150	210	286	270	*-5.6%*	*26.3%*
Total	3,637	3,769	3,946	3,544	3,398	*-4.1%*	*-1.7%*

Source: CRTC Data Collection

Table 4.3.7
Local Business Lines[42]
(Thousands)

	1999	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 1999 - 2003*
Incumbents	6,679	6,806	6,970	6,303	6,185	*-1.9%*	*-1.9%*
Out-of-Territory	*n/a*	*n/a*	*n/a*	119	221	*85.7%*	*n/a*
Competitors	401	572	591	602	598	*-0.6%*	*10.5%*
Total	7,080	7,378	7,561	7,024	7,004	*-0.3%*	*-0.3%*

Source: CRTC Data Collection
n/a: not available

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[41] Certain incumbents with out-of-territory local operations were unable to provide local revenues related to these activities.

[42] Out-of-territory results only available beginning in 2002.

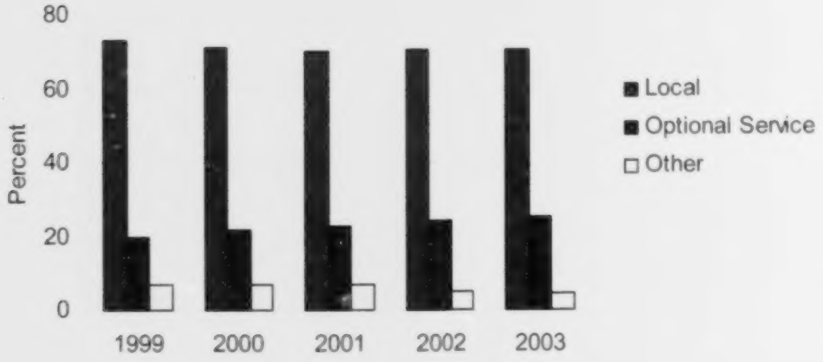
As shown in Table 4.3.6, incumbents' local business revenues decreased by 4.0% in 2003 to $3.1 billion, while competitors' revenues declined by 5.6% to $0.3 billion over the same period. As displayed in Table 4.3.7, the incumbents' total local business lines decreased 0.25% in 2003, reflecting a decrease of 1.9% in their in-territory operations, partially offset by an 85.7% increase in out-of-territory lines. The number of competitor business lines declined by 0.6% over the same period.

While business revenues and lines for both incumbents and competitors declined between 2002 and 2003, the decrease for competitors was slightly greater, resulting in a decline in overall revenue market share for the competitors from 8.1% to 7.9%, while the market share for lines remained relatively stable at 8.6%. In reference to ILEC out-of-territory operations, business line market share was 3.2% in 2003, up from 1.7% in the previous year.

Local Residential Market

Local residential service primarily includes basic local service (including touchtone), optional service features, and other services such as connection and inside wire charges. Figure 4.3.1 presents an analysis of local residential revenues by the major components for the five year period 1999 to 2003.

Figure 4.3.1
Local Residential Revenues by Major Component



Source: CRTC Data Collection

The data presented in Figure 4.3.1 demonstrates that basic local service revenues continue to make up the vast majority of local residential revenues at 71% in 2003, down from 73% in 1999. Optional features have grown from approximately 20% of local residential revenues, in 1999, to 25% in 2003, whereas other residential service offerings declined from 7% to 4% of revenues from 1999 to 2003.

In 2003, the local residential market experienced a minimal decline of 0.2% in terms of both revenues and lines, as overall growth in the number of households was believed to be in part offset by a decline in the number of second lines used for dial-up Internet access by customers switching to high-speed Internet access service and by customers displacing second line service with wireless service.

Table 4.3.8 presents local residential revenues for the period 1999 to 2003, while Table 4.3.9 displays the number of local residential lines for the same period.

Table 4.3.8
Local Residential Revenues
($ millions)

						Growth	*CAGR*
	1999	2000	2001	2002	2003	*2002 - 2003*	*1999 - 2003*
Incumbents	4,418	4,817	5,038	5,082	5,035	*-0.9%*	*3.3%*
Competitors	3	16	22	58	97	*67.2%*	*138.5%*
Total	4,421	4,833	5,060	5,140	5,132	*-0.2%*	*3.8%*

Source: CRTC Data Collection

Table 4.3.9
Local Residential Lines
(Thousands)

						Growth	*CAGR*
	1999	2000	2001	2002	2003	*2002 - 2003*	*1999 - 2003*
Incumbents	12,740	12,864	12,846	12,729	12,627	*-0.8%*	*-0.2%*
Out-of-Territory	n/a	n/a	n/a	-	1	*NA*	*NA*
Competitors	32	45	74	184	258	*40.2%*	*68.5%*
Total	12,772	12,909	12,920	12,913	12,886	*-0.2%*	*0.2%*

Source: CRTC Data Collection
n/a: not available

As presented in Table 4.3.8, incumbent local residential revenues decreased slightly by 0.9% to just over $5.0 billion in 2003, while competitors' local residential revenues increased by 67.2% to $97 million. The competitors' share of residential local revenues grew from 1.1% in 2002 to 1.9% in 2003.

The incumbents' local residential lines shown in Table 4.3.9 decreased by 0.8% to 12.6 million in 2003, while competitors' lines grew by about 40.2% to 0.26 million lines in 2003. The number of residential lines provided through out-of-territory incumbent operations continued to remain negligible in 2003 as they continued to concentrate their marketing efforts on the business market. The competitors' market share of local residential lines grew from 1.4% in 2002 to 2.0% in 2003.

Types of Facilities and Services Used by Competitors

There are three types of facilities and/or services used by competitors to provide local service:

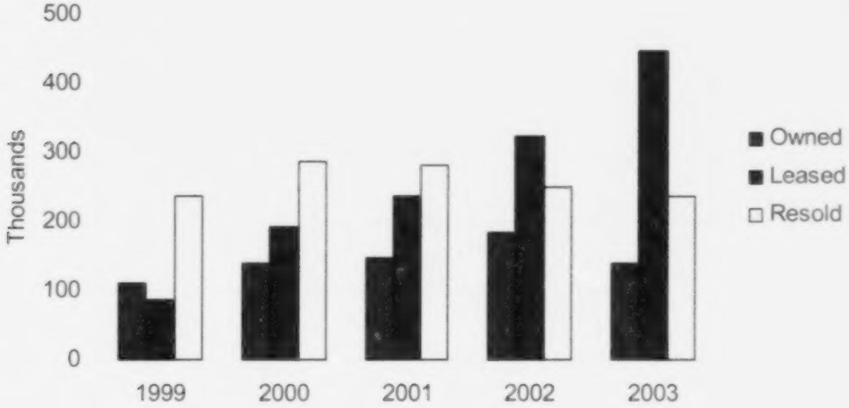
a) Owned facilities – self-provisioned loop facilities;

b) Leased facilities – such as unbundled loops or loop-equivalent facilities leased from a facilities-based telecommunications provider; and

c) Resold services – such as Centrex or its equivalents, purchased from a local exchange provider.

Figure 4.3.2 illustrates the proportions of non-incumbent competitor retail lines provisioned by each of these three methods of providing local service.

Figure 4.3.2
Competitor Local Retail Lines by Type of Facility



Source: CRTC Data Collection

Among the competitors, the use of leased facilities from other carriers has, over the last couple of years, been the predominant form of provisioning for local service. In 2003, there was a decrease in the use of owned facilities and a continuing decrease in the use of resold facilities, while the use of leased facilities continued to show strong growth. This may be attributed to the high cost of building these facilities and the financial constraints that many of the competitors find themselves in after emerging from bankruptcy protection and their subsequent restructuring. With limited access to capital, these companies are generally required to fund such expenditures from their operating cashflow.

Local Wholesale Revenues

Local wholesale revenues include interconnection revenues, including switching and aggregation, and the sale of wholesale services, including unbundled loops, PSTN access, Centrex resale, and other local wholesale revenues. Wholesale is defined as the provision of a telecommunications service or facility to a service provider, regardless of whether that service provider rebills the service or facility to another entity, or uses that service or facility internally to support the services that it bills. Table 4.3.10 provides a breakdown of the local wholesale revenues.

Table 4.3.10
Local Wholesale Revenues by Major Component
($ millions)

	1999	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 1999 - 2003*
Interconnection	231	248	315	354	287	*-18.9%*	*5.6%*
Centrex Resale	69	84	120	163	134	*-17.8%*	*18.0%*
PSTN Access	151	148	129	146	128	*-12.3%*	*-4.0%*
Unbundled Loops	16	13	31	53	61	*15.1%*	*39.7%*
Basic Local	36	38	55	84	89	*6.0%*	*25.4%*
Other User Charges	74	105	90	93	56	*-39.8%*	*-6.7%*
Total	577	636	740	893	755	*-15.5%*	*7.0%*

Source: CRTC Data Collection

As reported in Table 4.3.11, incumbent local wholesale revenues declined by 17.8% to $687 million in 2003. The decline in incumbent revenues was seen across most major categories. This decline is in part the result of the consolidation of operations among the affiliated incumbent companies, decreases in various interconnection and access rates in 2003, and the rationalization of competitor purchases of wholesale services from the incumbents. Over the same period, incumbent wholesale lines remained relatively stable, although in-territory lines reflected an overall increase of 8.6%, while out-of-territory lines declined by 74.4%. The decline in out-of-territory incumbent lines reflects corporate consolidation within incumbent companies which lowered in-house wholesale sales.

Over the same period, competitor wholesale revenues increased by $11 million, or 19.3%, in large part reflecting an 88.4% increase in wholesale lines as displayed in Table 4.3.12. Contrary to incumbent consolidation, the increase in competitor lines reflects corporate restructuring by telecommunications service providers, without which there would be minimal change in 2003.

Table 4.3.11
Local Wholesale Revenues
($ millions)

	1999	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 1999 - 2003*
Incumbents	569	608	713	836	687	*-17.8%*	*4.8%*
Competitors	8	28	27	57	68	*19.3%*	*70.7%*
Total	577	636	740	893	755	*-15.5%*	*7.0%*

Source: CRTC Data Collection

Table 4.3.12
Local Wholesale Lines
(Thousands)

	1999	2000	2001	2002	2003	*Growth 2002 - 2003*	*CAGR 1999 - 2003*
Incumbents	306	289	368	376	408	*8.6%*	*7.5%*
Out-of-Territory	n/a	n/a	n/a	43	11	*-74.4%*	*n/a*
Competitors	44	92	106	102	192	*88.4%*	*44.6%*
Total	350	381	474	521	611	*17.3%*	*15.0%*

Source: CRTC Data Collection
n/a: not available

The greater decline in wholesale revenues by the incumbents caused the competitors' share of wholesale revenues to increase from 6.4% in 2002 to 9.0% in 2003. Over the same period, competitors' share of wholesale lines grew from 19.6% in 2002, to 31.4% in 2003.

As noted above, the decrease in wholesale revenues was caused to a large extent by declines in incumbent revenues related to local interconnection and other PSTN access services. The level of these revenues is not dependent on trends in the number of local wholesale lines, which for the incumbents remained relatively stable from 2002 to 2003.

Summary

The size of the local and access market declined by 3.0% in 2003 in terms of revenues, while the number of lines overall remained relatively stable, increasing by 0.2%. The large incumbents continue to hold the lion's share of the market. Small inroads have been made by competitors, primarily in business urban markets but also to some degree in residential urban markets within specific localities of the country. The growth in competitor market share continued to originate primarily from non-incumbent competitors, and to a much lesser extent from the out-of-territory operations of some of the major incumbents, primarily in the business sector. The facilities used by non-incumbent competitors have also seen a continued shift away from resold lines, with leased lines being the major form of provisioning.

In 2004, several of the major competitors and cable companies have entered, or announced their intent to enter the local market via the use of IP technologies. While this technology has been developing over the last number of years, its availability to the consumer only really began in 2004. Expectations are that the impact of this new technology will be relatively small in 2004.

In Decision 2004-46,[43] the Commission outlined improved arrangements for competitors to interconnect with LECs, which will provide for more efficiency and will lower costs of interconnection.

The use of IP technologies by competitors and the reduction of interconnection barriers to existing LEC networks may lead to increased market penetration by competitors, particularly within the residential market which in most parts of the country remained relatively untapped. However, the underlying platform or facilities utilized by these technologies may be, in large part, provided by the ILECs and cable companies, and to a much lesser extent, by other facilities-based competitors.

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[43] *Trunking arrangements for the interchange of traffic and the point of interconnection between local exchange carriers*, Telecom Decision CRTC 2004-46, 14 July 2004.

4.4 Internet Services

Highlights

- Internet revenues increased 11.2% from $3.3 billion in 2002 to $3.7 billion in 2003, making it one of the fastest growing segments of the Canadian telecommunications services industry.
- Retail Internet access revenues reached $3.1 billion in 2003, increasing 20.4% from $2.5 billion in the previous year.
- Households with residential Internet access subscriptions reached 7 million households in 2003, representing 56% of all Canadian households. Households with high-speed Internet access reached 4.5 million households or 36% of all Canadian households, up from 25% in the previous year.

Sector Description

a) Description of Services

Internet-related telecommunications services can be divided into three broad market segments: Internet access, Internet transport and Internet applications.

Internet access is the provision of an IP connection to an end-user which allows the end-user to exchange applications traffic with Internet hosts and other end-users. Internet access service consists of three distinct components:

- a physical access line, such as a twisted-pair or coaxial copper cable, a fibre optic cable, or over-the-air spectrum;
- a low- or high-speed data link, to move information between the end-user's modem or switch and the Internet service provider's (ISP's) facilities; and
- an IP connection established between a computer or similar device behind the end-user's modem and the ISP's facilities.

Internet access services are provisioned at a variety of speeds. Low-speed, or narrowband access services, operate at speeds of up to 64 kilobits per second (Kbps), and are typically provided over dial-up access lines. High-speed access services, including wideband (up to 1.5 Mbps) and broadband (faster than 1.5 Mbps), are for the most part delivered over digital subscriber lines (DSL), coaxial cable and, particularly to businesses, fibre optic cables. Satellite and terrestrial wireless technologies are also used to provide high-speed access services.

Internet transport service is the provision of Internet connectivity to ISPs. Internet transport capacity is provided over Internet backbone facilities that carry aggregated traffic across domestic and international intercity links between Internet traffic switches or routers. In some cases, peering arrangements between Internet backbone service providers substitute for the outright purchase of Internet transport by one ISP from another. Consequently, separate accounting of all Internet transport services is not available.

Internet applications include a growing number of services which piggyback on the Internet connectivity services. They include e-mail, Web surfing and hosting, instant messaging, audio- and video-over-IP, among others. Typically, many of the application services are bundled together with Internet access services. However, ISPs and other telecommunications companies do participate in emerging stand-alone business Internet applications markets which include services such as premium Web hosting, Internet data centres and off-site data storage, security and firewall services among others.

b) Markets and Observations

Internet-related telecommunications revenues in Canada were $3.7 billion in 2003, representing an increase of 11.2% over the previous year. Based on Table 4.4.1, retail Internet access services accounted for the vast majority of these revenues (84% or $3.1 billion), followed by retail and wholesale Internet transport, applications and other services.[44]

Table 4.4.1
Internet Revenues[45]
($ millions)

	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 2000-2003*
Retail Internet Access Services	1,293	2,000	2,537	3,054	*20.4%*	*33.2%*
Internet Transport, Applications & Other	459	660	748	600	*-19.8%*	*9.4%*
Total Internet Revenues	1,752	2,660	3,285	3,654	*11.2%*	*27.8%*

Source: CRTC Data Collection

c) Sector Participants

There are four principal groups of market participants providing retail Internet access and transport services in Canada:

- ILECs, who own the majority of the copper twisted pair access links to homes and businesses. These entities provide Internet access mainly by dial-up, DSL, fibre and satellite, although some fixed wireless is utilized in certain places.

- Cable companies, who own the coaxial-based television distribution networks into homes and businesses. These companies mainly provide access by cable modem, or by fibre.

- Competitive facilities-based telecommunications services providers, which provide service via dial-up, DSL, fibre, fixed wireless or satellite. An increasing trend in this group is the presence of ISPs who utilize unlicensed wireless in rural areas.

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[44] This category includes wholesale Internet access services, Internet transport and retail and wholesale Internet applications services and equipment, Internet access/transport equipment and ancillary services.

[45] The Internet transport, applications and other related revenues reported in Table 4.4.1 exclude peer to peer agreements where there is no financial compensation. In these arrangements, the carriers exchange similar volumes of traffic. They simply reflect the revenues reported by telecommunications service providers participating in the CRTC's data collection process. Consequently, this section focuses primarily on retail Internet access which makes up the majority of the collected data on Internet-related revenues.

- Non facilities-based ISPs such as AOL Canada, Cybersurf Inc., Inter.net Canada and Uniserve focus primarily on the provision of Internet access services. These companies tend to utilize the wholesale DSL data services of the ILECs, although use of cable third party Internet access (TPIA) is expected in 2004.

In addition to Internet access services, some facilities-based service providers, including the ILECs, cable companies and competitors, also provide Internet transport services.

d) Regulatory Framework

In 1999 in its consideration of how to regulate new media,[46] the Commission found that while some Internet applications fell under the *Broadcasting Act*, they did not warrant regulation. While both low-speed and high-speed retail Internet access services have been forborne from regulation, the Commission regulates the provision of wholesale Internet access services. In the case of the ILECs, the underlying facilities and services required by third-party DSL Internet access service providers are subject to price regulation and generally fall within the Competitor Services basket of services under the current price cap regime. Cable companies have also been required to provide third-party access to their underlying facilities.

e) Regulatory Developments in the Past Year

In Decision 2003-49,[47] the Commission directed the ILECs to provide retail DSL Internet service to CLECs' residential local telephone service customers that use the ILECs' local loops. In Decision 2004-34,[48] the Commission extended these requirements to include the CLECs' business customers.

In 2002, DSL and cable Internet access service providers launched "high-speed Lite" services which provide always-on connections at slower transmission speeds (e.g., in the range of 128 Kbps). A proceeding is ongoing for the provision of asymmetric digital subscriber line (ADSL) and cable-based services to competitive ISPs to allow them to provide "high-speed Lite" service.

Bundling of Internet services with regulated telecommunications services became an issue last year, with the Commission ruling on cases involving the provision of regulated services, such as local telephone service, and unregulated services, such as Internet access.

Implementation of TPIA over cable began in 2003 with the entrance of Cybersurf Inc. into the Internet market over cable using the facilities of Rogers Communications Inc.

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[46] *New Media*, Telecom Public Notice CRTC 1999-14, Broadcasting Public Notice CRTC 1999-84, 17 May 1999.

[47] *Call-Net Enterprises Inc. – Request to lift restrictions on the provision of retail digital subscriber line Internet services*, Telecom Decision CRTC 2003-49, 21 July 2003.

[48] FCI Broadband – Request to lift restrictions on the provision of retail digital subscriber line Internet services to business customers, Telecom Decision CRTC 2004-34, 21 May 2004.

In Decision 2004-37,[49] the Commission introduced guidelines for the use and testing of cable modems used by ISPs to provide Internet access service over cable.

Market Segments

Table 4.4.2 provides a market segment breakdown for the retail Internet access service market. As of 2003, residential Internet access revenues accounted for 75% of the retail market. The annual revenue growth rates in both the residential and business segments of the market have been steadily declining over time. Nevertheless, the average annual growth rate for both segments combined was 41% over the period 1999 to 2003, making retail Internet access services one of the fastest growing market segments in the telecommunications industry.

Table 4.4.2
Residential and Business Internet Access Service Revenues
($ millions)

	1999	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 1999-2003*
Residential	556.4	974.7	1,461.9	1,943.0	2,279.5	*17.3%*	*42.3%*
Market Share	*71.5%*	*75.4%*	*73.1%*	*76.6%*	*74.6%*		
Business	221.3	318.5	537.6	593.8	774.3	*30.4%*	*36.8%*
Market Share	*28.5%*	*24.6%*	*26.9%*	*23.4%*	*25.4%*		
Total Revenues	777.7	1,293.2	1,999.5	2,536.8	3,053.8	*20.4%*	*40.8%*

Source: CRTC Data Collection

Table 4.4.3 provides a breakdown of retail Internet access revenues by market participant (i.e., ILECs, cable companies and all other competitors (facilities and non facilities-based)). The cable companies, as a group, have experienced the fastest average annual revenue growth rates since 1999 at roughly 66% per year and, as a result, boosted their share of the retail Internet access market to roughly 36% in 2003 from 19% in 1999. ILEC retail Internet access revenues also grew quickly, at approximately 40% per year, maintaining their market share at 42% in 2003. Competitors' market share over the 1999 to 2003 period steadily decreased from 38% to 22%. During the same time, as displayed in Table 4.4.3, the market share of the four largest companies in the retail Internet access market (i.e., Bell Canada, TELUS, Rogers and Shaw) continued to steadily increase from 38% in 1999 to 54% in 2003.

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[49] *Cable modems for third-party Internet access*, Telecom Decision CRTC 2004-37, 4 June 2004.

Table 4.4.3
Internet Connectivity Service Revenues by Market Participant Group
($ millions)

	1999	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 1999-2003*
ILECs	333.2	443.8	781.9	1,045.4	1,270.5	*21.5%*	*39.7%*
Market Share	*42.8%*	*34.3%*	*39.1%*	*41.2%*	*41.6%*		
Cable	145.4	331.7	615.1	899.4	1,108.2	*23.2%*	*66.2%*
Market Share	*18.7%*	*25.7%*	*30.8%*	*35.5%*	*36.3%*		
Competitors	299.1	517.6	602.6	591.9	675.2	*14.1%*	*22.6%*
Market Share	*38.5%*	*40.0%*	*30.1%*	*23.3%*	*22.1%*		
Total	777.7	1,293.1	1,999.5	2,536.8	3,053.8	*20.4%*	*40.8%*
Four largest Companies	293.3	505.7	875.3	1,289.9	1,657.4	*28.5%*	*54.2%*
Market Share	*37.7%*	*39.1%*	*43.8%*	*50.8%*	*54.3%*		

Source: CRTC Data Collection

Although the ILECs' retail Internet revenues increased by 22% in 2003, their share of retail Internet revenues remained relatively unchanged at 42%.

As reflected in Table 4.4.4, competitors' market share declined in both the residential and business segments of the retail Internet access market in 2003. Over the 1999 to 2003 period, the competitors' share of the residential market decreased by over 50% from 35% in 1999 to 15% in 2003. By contrast, in the business segment, the competitors' market share declined from 46% to 43% during the same period. The sharp decline in the residential market is largely explained by the fact that competitors have very little share of the growing residential high-speed access market as displayed in Table 4.4.6. Table 4.4.6 indicates that competitors, over the 1999 to 2003 period, generally had between 1% and 3% of the high-speed Internet subscribers.

Table 4.4.4
Internet Access Revenues by Market Participant Group
($ millions)

Residential Segment - Retail Internet Access Revenues	1999	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 1999-2003*
ILECs	217.3	342.3	551.5	780.0	892.0	*14.4%*	*42.3%*
Market Share	*39.1%*	*35.1%*	*37.7%*	*40.1%*	*39.1%*		
Cable	142.6	326.1	570.8	846.2	1,049.3	*24.0%*	*64.7%*
Market Share	*25.6%*	*33.5%*	*39.0%*	*43.6%*	*46.0%*		
Competitors	196.5	306.3	339.6	316.9	338.2	*6.7%*	*14.5%*
Market Share	*35.3%*	*31.4%*	*23.2%*	*16.3%*	*14.8%*		
Total	556.4	974.7	1,461.9	1,943.0	2,279.5	*17.3%*	*42.3%*

Business Segment - Retail Internet Access Revenues	1999	2000	2001	2002	2003		
ILECs	115.9	101.5	230.4	265.5	378.4	*42.5%*	*34.4%*
Market Share	*52.4%*	*31.9%*	*42.8%*	*44.7%*	*48.9%*		
Cable	2.8	5.6	44.3	53.2	58.9	*10.7%*	*114.2%*
Market Share	*1.3%*	*1.8%*	*8.2%*	*9.0%*	*7.6%*		
Competitors	102.6	211.4	263.0	275.1	337.0	*22.5%*	*34.6%*
Market Share	*46.4%*	*66.4%*	*48.9%*	*46.3%*	*43.5%*		
Total	221.3	318.5	537.6	593.8	774.3	*30.4%*	*36.8%*

Source: CRTC Data Collection

The volume of Internet access connections are generally measured on the basis of end-user subscriptions. Business Internet access subscriptions are difficult to unitize, since businesses vary significantly in size. Consequently, the following data on subscriptions focuses solely on the residential segment of the market.

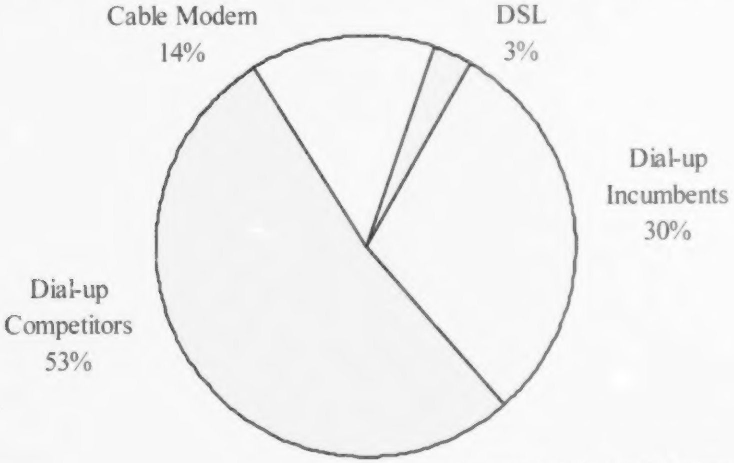
As of year-end 2003, there were more than 7 million residential Internet access subscriptions or 56% of all Canadian households. Households with high-speed Internet access reached 4.5 million households or 36% of all Canadian households, up from 25% in the previous year.

Figures 4.4.1 and 4.4.2 display residential high-speed and dial-up Internet access subscriptions for 1999 and 2003, respectively. These figures when compared, illustrate the shift from dial-up Internet access to high-speed since 1999. In 1999, the vast majority of Internet access was by dial-up access (83%). Four years later, in 2003, dial-up access was 36% of all residential Internet subscriptions. High-speed access is now the dominant means of accessing the Internet, with 64% of all residential Internet subscriptions.

As displayed in Table 4.4.6, during the 1999 to 2003 period, the number of dial-up subscriptions declined from 2.8 million subscriptions to 2.5 million, a 3.5% annual decline. The competitors now have a smaller share of a declining dial-up market. In 1999, competitors had 64% of dial-up subscriptions compared to 55% in 2003.

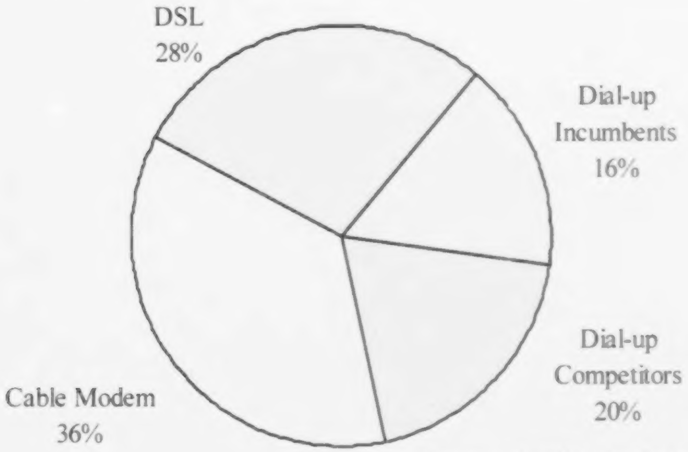
A contributing factor to the decline in dial-up subscriptions is the introduction of "high-speed Lite" in 2002, by DSL and cable Internet access service providers. This service provides always-on connections at slower transmission speeds (e.g., in the range of 128 Kbps) to the Internet. In Figure 4.4.2 this service is included with high-speed.

Figure 4.4.1
Residential Internet Subscriptions by Technology (1999)



Source: CRTC Data Collection

Figure 4.4.2
Residential Internet Subscriptions by Technology (2003)



Source: CRTC Data Collection

High-speed Internet subscriptions, over the 1999 to 2003 period, increased annually by 98%. DSL continued to narrow the gap with cable modem. In 1999, cable modem subscriptions were approximately 5 times that of DSL or approximately 22 DSL subscriptions per 100 cable modem subscriptions. By 2003, the cable modem subscriptions were approximately 1.3 times that of DSL or roughly 77 DSL subscriptions per 100 cable modem subscriptions up from 70 in 2002.

Table 4.4.5 displays the residential and business Internet access revenues by access technology. For the period 1999 to 2003, competitive facilities-based providers and ISPs maintained their revenue market share at approximately 52% of the low-speed, dial-up sector. In 2003, these companies had 5% of the residential DSL revenues and a negligible share of the cable market.

Table 4.4.5 (Part 1 of 2)
Residential and Business Internet Access Revenues and Revenue Market Share by Access Technology
($ millions)

	1999			2000			2001			2002			2003				
	Revenues	Incum-bent	Access Mode Share	Revenues	Incum-bent	Access Mode Share	Revenues	Incum-bent	Access Mode Share	Revenues	Incum-bent	Access Mode Share	Revenues	Incum-bent	Access Mode Share	*Growth 2002-2003*	*CAGR 1999-2003*
Total																	
Residential	556	61%	100%	975	67%	100%	1,462	75%	100%	1,943	83%	100%	2,279	85%	100%	*17.3%*	*42.3%*
Business	221	54%	100%	319	33%	100%	538	49%	100%	594	54%	100%	774	57%	100%	*30.4%*	*36.8%*
Retail	**778**	**59%**	**100%**	**1,293**	**59%**	**100%**	**2,000**	**68%**	**100%**	**2,537**	**76%**	**100%**	**3,054**	**78%**	**100%**	*20.4%*	*40.8%*
Business Share	28%			25%			27%			23%			25%			*8.3%*	
Dial-Up																	
Residential	407	48%	73%	562	44%	58%	640	46%	44%	628	51%	32%	561	44%	25%	*-10.7%*	*8.4%*
Business	76	50%	34%	121	32%	38%	158	45%	29%	114	54%	19%	121	63%	16%	*6.6%*	*12.4%*
Retail	**482**	**48%**	**62%**	**683**	**42%**	**53%**	**798**	**45%**	**40%**	**742**	**51%**	**29%**	**682**	**48%**	**22%**	*-8.1%*	*9.0%*
Business Share	16%			18%			20%			15%			18%			*16.0%*	
DSL																	
Residential	24	93%	4%	98	96%	10%	262	97%	18%	473	96%	24%	668	95%	29%	*41.0%*	*130.7%*
Business	37	89%	17%	45	76%	14%	118	80%	22%	150	76%	25%	304	64%	39%	*102.0%*	*68.9%*
Retail	**61**	**91%**	**8%**	**143**	**90%**	**11%**	**380**	**92%**	**19%**	**624**	**91%**	**25%**	**972**	**85%**	**32%**	*55.7%*	*99.8%*
Business Share	61%			32%			31%			24%			31%			*29.7%*	
Cable																	
Residential	125	100%	23%	311	100%	32%	555	100%	38%	835	99%	43%	1,045	99%	46%	*25.2%*	*69.9%*
Business	2	100%	1%	5	85%	2%	11	84%	2%	26	92%	4%	44	100%	6%	*72.3%*	*121.1%*
Retail	**127**	**100%**	**16%**	**316**	**100%**	**24%**	**566**	**99%**	**28%**	**860**	**99%**	**34%**	**1,089**	**99%**	**36%**	*26.6%*	*71.0%*
Business Share	1%			2%			2%			3%			4%			*36.1%*	

(Continued on next page)

Table 4.4.5 (Part 2 of 2)
Retail Residential and Business Internet Access Revenues and Revenue Market Share by Access Technology
($ millions)

	1999			2000			2001			2002			2003				
	Revenues	Incum-bent	Access Mode Share	Revenues	Incum-bent	Access Mode Share	Revenues	Incum-bent	Access Mode Share	Revenues	Incum-bent	Access Mode Share	Revenues	Incum-bent	Access Mode Share	*Growth 2002-2003*	*CAGR 1999-2003*
ISDN and Other																	
Residential	0	0%	0%	0	0%	0%	0	0%	0%	0	75%	0%	2	11%	0%	-	-
Business	27	0%	12%	39	3%	12%	39	1%	7%	40	10%	7%	43	11%	6%	*7.7%*	*12.6%*
Retail	**27**	**0%**	**3%**	**39**	**3%**	**3%**	**39**	**1%**	**2%**	**40**	**10%**	**2%**	**45**	**11%**	**1%**	*12.5%*	*13.9%*
Business Share	100%			100%			100%			100%			95%			*-4.3%*	
Fibre																	
Residential	0	0%	0%	0	0%	0%	0	0%	0%	0	12%	0%	0	0%	0%	*-100.0%*	-
Business	79	58%	36%	108	25%	34%	210	42%	39%	252	56%	42%	254	48%	33%	*0.7%*	*33.8%*
Retail	**79**	**58%**	**10%**	**108**	**25%**	**8%**	**210**	**42%**	**11%**	**253**	**46%**	**10%**	**254**	**48%**	**8%**	*0.3%*	*33.8%*
Business Share	100%			100%			100%			100%			100%			*0.4%*	
Fixed Wireless & Satellite																	
Residential	1	100%	0%	4	100%	0%	6	69%	0%	6	48%	0%	4	67%	0%	*-40.0%*	*56.1%*
Business	0	83%	0%	1	86%	0%	1	49%	0%	12	29%	2%	8	34%	1%	*-28.2%*	*123.5%*
Retail	**1**	**94%**	**0%**	**4**	**98%**	**0%**	**7**	**66%**	**0%**	**18**	**36%**	**1%**	**12**	**44%**	**0%**	*-32.3%*	*88.6%*
Business Share	35%			14%			13%			66%			70%			*6.0%*	

Notes:

Access Mode Share shows access mode's share of total revenues in same category.

Access Mode Share for residential dial-up, for example, shows residential dial-up's share of total residential revenues.

Incumbent Share shows share of total revenues held by companies incumbent in that access mode:

- For dial-up, ISDN and other, DSL, and fixed-wireless/satellite, incumbent share shows telco incumbents' share of revenue.
- For cable, incumbent share shows cable incumbents' share of revenue.
- For fibre, total, and incumbent share shows combined market share for telco incumbents, cable incumbents, and rights of way incumbents (utilities and municipalities).

Source: CRTC Data Collection

Types and Sources of Facilities and Services Used by Competitors

Competitive ISPs rely predominately on ILEC facilities and services and on cable company TPIA services to provide Internet connectivity to end-users. Implementation difficulties have largely precluded competitors from providing service using TPIA from cable companies to date. In some cases, in addition to the incumbents, competitive ISPs also rely on other competitive telecommunications providers for Internet access and transport facilities.

To date, as displayed in Tables 4.4.5 and 4.4.6, competitors have made little headway in the residential segment of the high-speed Internet access market by making use of incumbent facilities and services, as indicated by the relatively small share they hold of that market (i.e., roughly 5% in the case of DSL and roughly 1% in the case of cable). On the other hand, reliance on wholesale facilities and services is far more common in the provision of Internet access services to business customers.

Table 4.4.6
Residential Internet Subscribers by Market Participant

	1999		2000		2001		2002		2003			
	Subscribers /1000	Share*	Subscribers /1000	Share*	Subscribers /1000	Share*	Subscribers /1000	Share*	Subscribers /1000	Share*	*Growth 2002-2003*	*CAGR 2002-2003*
Telco Incumbents												
Dial-Up	1,016	36.5%	1,318	44.4%	1,524	48.4%	1,392	46.1%	1,123	44.9%	-19.3%	3.4%
High Speed	95	16.3%	398	29.3%	903	35.3%	1,400	39.7%	1,859	41.2%	32.8%	169.5%
Total	1,111	33.0%	1,716	39.7%	2,427	42.5%	2,792	42.7%	2,982	42.5%	6.8%	39.0%
Competitors												
Dial-Up	1,686	60.5%	1,576	53.1%	1,560	49.5%	1,558	51.6%	1,333	53.3%	-14.4%	-7.5%
High Speed	9	1.5%	14	1.0%	31	1.2%	71	2.0%	122	2.7%	71.8%	139.2%
Total	1,695	50.3%	1,590	36.8%	1,591	27.9%	1,629	24.9%	1,455	20.8%	-10.7%	-5.0%
Cable Incumbents												
Dial-Up	83	3.0%	74	2.5%	65	2.1%	70	2.3%	44	1.8%	-37.0%	-19.1%
High Speed	478	82.1%	943	69.6%	1,624	63.5%	2,055	58.3%	2,532	56.1%	23.2%	74.3%
Total	561	16.7%	1,018	23.5%	1,689	29.6%	2,125	32.5%	2,576	36.7%	21.2%	66.2%
Total												
Dial-Up	2,785	82.7%	2,969	68.7%	3,149	55.2%	3,020	46.1%	2,500	35.6%	-17.2%	-3.5%
High Speed	582	17.3%	1,355	31.3%	2,558	44.8%	3,527	53.9%	4,513	64.4%	28.0%	97.9%
Total	3,367		4,324		5,706		6,547		7,013		7.1%	27.7%

* Percentages refer to access mode's proportion of all residential Internet subscriptions of its type, except for the total rows, where they are a proportion of total industry residential revenues.

Source: CRTC Data Collection

Summary

In 2003, Internet service revenues reached $3.7 billion, increasing approximately 11% over the previous year, making it one of the fastest growing segments of the Canadian telecommunications industry. Retail Internet access services account for 84% of the Internet market.

The largest service category, retail Internet access, increased very quickly in recent years, increasing at an average annual rate of 33% between 1999 and 2003. The residential segment makes up roughly three-quarters of the market. The cable companies' and the ILECs' share of virtually all major segments of the market grew steadily and, in the case of residential high-speed services, they account for virtually the entire market. Competitors' retail market share declined in both the residential and business segments, declining from 16.3% in the previous year to 14.8% in 2003 in the residential segment, and from 46.3% to 43.5% in the business segment. The market share of the four largest companies continued to increase, from 50.8% in 2002 to 54.3% in 2003.

As of year-end 2003, more than 7 million subscribers or 56% of all Canadian households had Internet access subscriptions, an increase of 7% over year-end 2002.

4.5 Wireless

Highlights

- In 2003, the wireless industry experienced a growth rate of 13.3% in revenues and 10.8% in the number of wireless subscribers.
- Overall growth in the number of subscribers slowed in the last two years, while the percentage of subscribers using post-paid plans has increased marginally.
- In 2003, market share (based on revenues) for TELUS, Bell Wireless Alliance (BWA)[50] and RWI combined, was just over 93%.
- The average revenue per subscriber (ARPU) in 2003 increased to $49 per month from $48 per month in 2002.

Sector Description

a) Description of Services

The wireless market segment encompasses telecommunications services provided via wireless access facilities. These services include mobile telephone (including fixed wireless), mobile data such as text messaging, wireless Internet access and paging services. Although satellite private line services are included in the data and private line section of this report, satellite services as they relate to mobile telephone are included in this section.

b) Markets and Observations

Wireless revenues continued to grow in 2003. The introduction of new services and applications, targeted pricing plans, improved handsets, as well as innovative service bundles, have contributed to the increases in wireless revenues and subscribers. Table 4.5.1 displays the wireless revenues for the period 1999 to 2003.

Table 4.5.1
Wireless Revenues
($ millions)

	1999	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 1999-2003*
Basic Voice	3,473.1 #	3,994.5 #	4,758.4 #	5,399.9 #	6,315.5	*17.0%*	*16.1%*
Long Distance	399.1	459.4	494.3	517.7	572.6	*10.6%*	*9.4%*
Paging	208.8	240.9	232.0	166.4	131.4	*-21.0%*	*-10.9%*
Data and Other	295.7	364.5	416.9	617.4	549.3	*-11.0%*	*16.7%*
Terminal	459.1	513.7	521.3	389.6	467.9	*20.1%*	*0.5%*
Total	4,835.8	5,573.0	6,422.9	7,091.0	8,036.7	*13.3%*	*13.5%*

Source: CRTC Data Collection

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[50] BWA includes Bell Mobility, Aliant Telecom, SaskTel, MTS, Northwestel Mobility Inc., Télébec Mobilité and NorTel (Northern) Mobility.

In 2003, the wireless sector had revenues of approximately $8.0 billion, a 13.3% increase over the previous year, and approximately 13.3 million subscribers representing a 10.8% increase over the previous year.

c) *Sector Participants*

Industry participants include four national entities, regional wireless carriers, small ILECs and resellers of wireless services. Participants may register with the Commission on the "Carriers" registration list as wireless providers. Currently, the list has 15 registrants.

In 2004, RWI purchased Microcell.

d) *Regulatory Framework*

Since 1998, wireless services have been forborne from Commission regulation. Industry Canada does, however, continue to regulate the spectrum required by the wireless industry.

e) *Regulatory Developments*

In Decision 2003-26,[51] the Commission denied an application by Microcell requesting that the Commission order RWI and Bell Mobility to cease and desist from certain conduct in the wireless marketplace that Microcell alleged was contrary to subsection 27(2) of the Act.

In Decision 2003-53,[52] the Commission set conditions under which wireless carriers could offer services as wireless CLECs, and introduced public safety obligations and liability limitations for all wireless carriers.

In Decision 2003-76,[53] the Commission found that, in a dispute between TELUS and RWI, TELUS was not in breach of its tariffs, in contravention of section 25 of the Act, and that RWI was not entitled to any accounting or rebate in respect of monies paid to TELUS for one-way trunks.

In Decision 2003-81,[54] the Commission forbore, with some conditions, from regulating mobile services provided by Télébec and NorthernTel, Limited Partnership.

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[51] *Application by Microcell regarding alleged contraventions of section 27(2) of the Telecommunications Act by Rogers Wireless and Bell Mobility*, Telecom Decision CRTC 2003-26, 28 April 2003.

[52] *Conditions of service for wireless competitive local exchange carriers and for emergency services offered by wireless service providers*, Telecom Decision CRTC 2003-53, 12 August 2003.

[53] *Rogers Wireless Inc. vs. TELUS Communications Inc. – Toll termination arrangements*, Telecom Decision *CRTC 2003-76, 7 November 2003.*

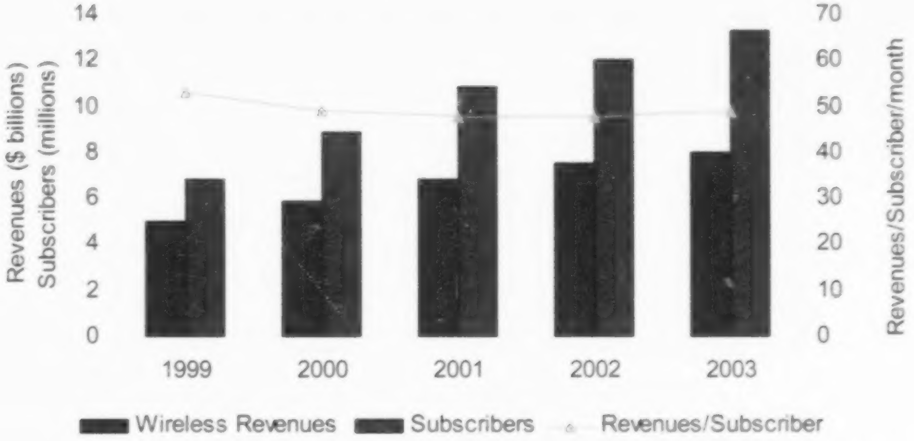
[54] *Application by Société en commandite Télébec and NorthernTel, Limited Partnership for forbearance from regulation of mobile wireless services*, Telecom Decision CRTC 2003-81, 2 December 2003.

Market Segments

As displayed in Figure 4.5.1, wireless revenues increased from $4.8 billion in 1999 to $8.0 billion in 2003, representing a CAGR of 13.5%. Similarly, the number of wireless subscribers increased from 6.8 million in 1999 to 13.3 million in 2003, resulting in a CAGR of 18.1%.

Figure 4.5.1 also shows the ARPU for the period 1999 to 2003. During this period, revenues per subscriber dropped from an average of $53 per month to $49 per month, although the downward trend has begun to reverse itself. The ARPU bottomed out at $48 per month in 2002, and increased to $49 per month in 2003. This is primarily due to an increased emphasis by the suppliers on post-paid plans, which generally have a much higher ARPU than pre-paid plans.

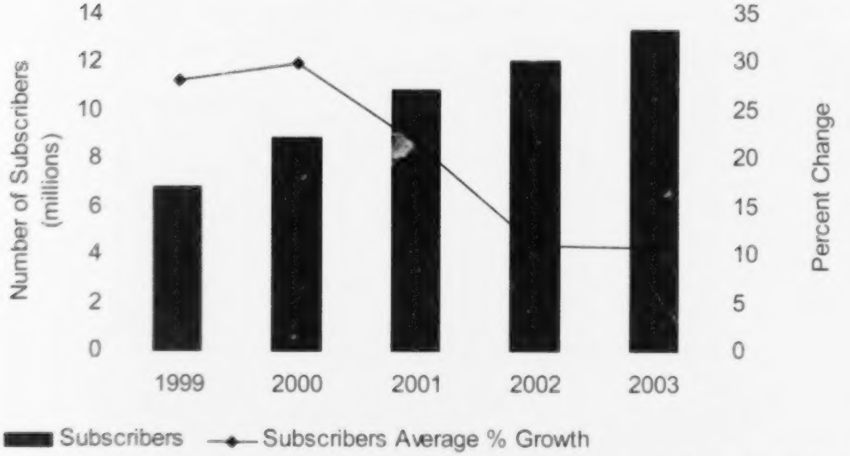
Figure 4.5.1
Wireless Revenues, Subscribers and Revenues per Subscriber



Source: CRTC Data Collection

As displayed in Figure 4.5.2, the number of wireless subscribers increased significantly over the period 1999 to 2003. However, the growth rate on a yearly basis has been declining since 2000. Although the CAGR from 1999 to 2003 was 18.1%, the year-over-year increase for 2003 was 10.8%. The slower growth rate can be attributed to a maturing market.

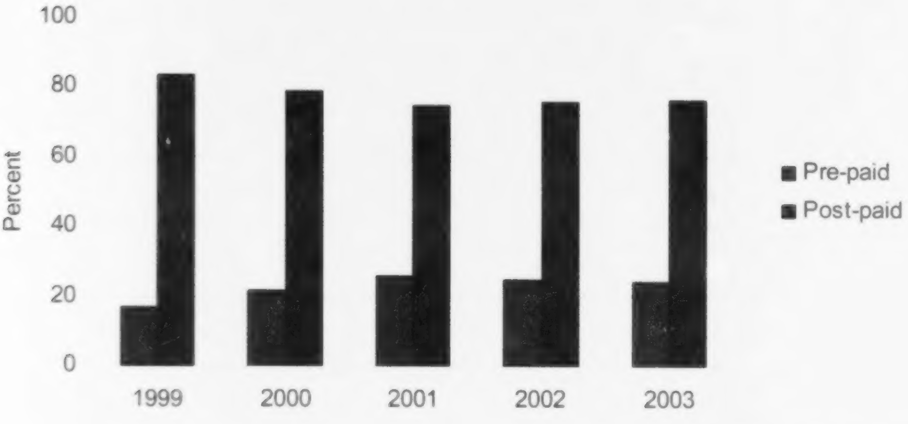
Figure 4.5.2
Mobile Subscriber Growth



Source: CRTC Data Collection

Figure 4.5.3 presents a comparison of pre-paid and post-paid subscribers. It shows that from 2002 to 2003, the proportion of post-paid subscribers increased marginally, from 75.4% to 76.3%. A variety of different post-paid plans and options are now available, giving customers more choices and more services. Most wireless service providers targeted the post-paid segment of the market in order to retain high value paying customers. As post-paid customers are generally required to commit to the supplier for a fixed length of time, churn rate is also minimized.

Figure 4.5.3
Percent of Pre-Paid & Post-Paid Subscribers



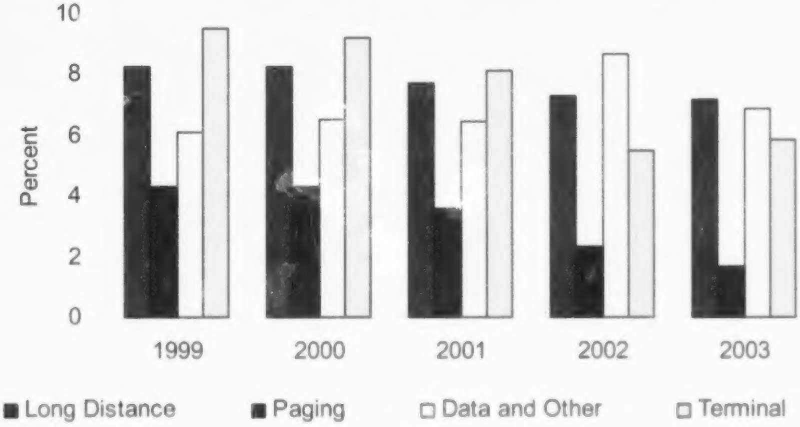
Source: CRTC Data Collection

Major Revenue Components

As shown in Table 4.5.1, from 1999 to 2003, the percentage of wireless revenues attributable to basic voice packages remained relatively constant, at between 72% and 78% of the total revenue.

Figure 4.5.4 shows the revenues of the major components, excluding basic voice packages, as a percent of total wireless revenues for the period 1999 to 2003. It indicates that long distance revenues as a percent of total wireless revenues remained relatively constant, and that of the paging and terminal revenues declined over the five year period. It also shows that the data and other component as a percent of total wireless revenues increased in the first four years, but declined in 2003. A closer look at the data and other component reveals that data revenues increased in 2003 by 63%, but the increase was offset by a decrease in the remaining revenues in that component, consisting of mobile roaming and interconnection revenues. Paging revenues, as a percent of wireless revenues, decreased primarily due to the replacement of pagers by mobile telephones.

Figure 4.5.4
Wireless Revenues by Major Component (excluding Basic Voice)



Source: CRTC Data Collection

Comparison of Wholesale with Retail

The limited availability of licensed spectrum constrained the industry to a few players. These players focused on the retail market entering into agreements with each other which enabled them to maximize coverage while minimizing capital expenditures. These players also offer plans with handset subsidies. These factors reduce the incentive for wireless resale. As a result, the wholesale market is small.

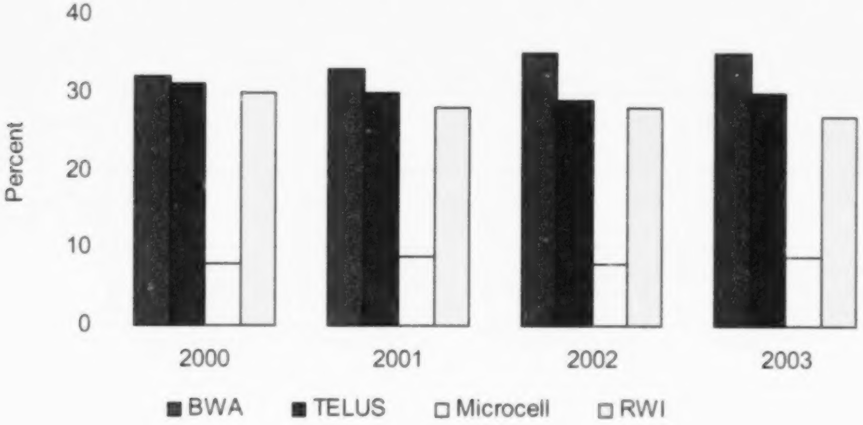
As the market evolves, wholesale is expected to grow. In early 2004, there are indications that this is under way. Of note, Bell Mobility and the Virgin Group entered into an agreement to form a jointly-owned company to market wireless services using the Bell Mobility digital wireless network.

Market Share

Figures 4.5.5 and 4.5.6 portray the market share of each of the major players in the industry, measured in terms of revenues (Figure 4.5.5) and number of subscribers (Figure 4.5.6).

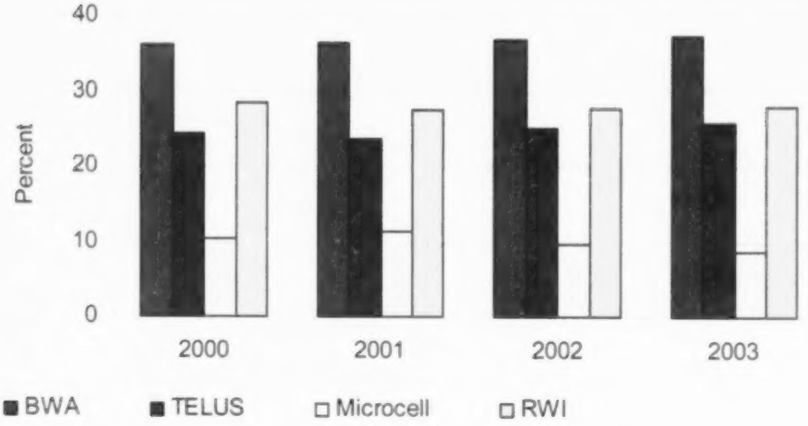
Overall, based on revenues on a national basis, in 2003, the three largest suppliers (BWA, RWI and TELUS) continued to dominate with a market share of approximately 93%. At the national level, there is no dominant supplier of wireless services.

Figure 4.5.5
Major Wireless Players' Market Share (Mobile Revenues)



Source: Companies' Annual Reports

Figure 4.5.6
Major Wireless Players' Market Share (Mobile Subscribers)



Source: Companies' Annual Reports

Table 4.5.2 presents the four major wireless suppliers' subscriber share by province. A review of the data indicates that in all provinces (except Ontario) a single supplier has over 50% of the subscribers. In Ontario, two suppliers each have over 30% of the subscribers. The data also indicates that in three of the provinces, three suppliers have at least 10% or more of the subscribers, while in five of the remaining seven provinces, there are at least two suppliers with 10% or more of the subscribers. In the remaining two provinces (Prince Edward Island and Newfoundland and Labrador) only one supplier has 10% or more of the subscribers.

Table 4.5.2
Subscriber Share By Province

Province	BWA	TELUS	RWI	Microcell
British Columbia	6%	51%	29%	14%
Alberta	7%	65%	22%	5%
Saskatchewan	78%	3%	18%	1%
Manitoba	61%	6%	30%	3%
Ontario	38%	17%	35%	9%
Quebec	54%	15%	20%	10%
New Brunswick	76%	3%	21%	0%
Nova Scotia	65%	8%	27%	0%
Prince Edward Island	94%	5%	1%	0%
Newfoundland and Labrador	89%	4%	7%	0%

Source: CRTC Data Collection

Churn Rate

Table 4.5.3 shows the average monthly churn rate for each of the major players for each of the last five years. It is calculated by dividing the number of subscriber units disconnected by the average number of units. Without number portability and platform compatibility between service providers, and with the continued preponderance of longer term post-paid contracts, these rates are generally low. The churn rates in 2003 declined for three of the four carriers.

Table 4.5.3
Average Monthly Churn Rates

	1999	2000	2001	2002	2003
Bell Mobility	1.7%	1.5%	1.5%	1.6%	1.4%
Microcell	2.1%	2.2%	2.6%	3.4%	3.1%
RWI	1.9%	2.4%	2.2%	2.0%	2.1%
TELUS	1.6%	2.0%	2.0%	1.8%	1.5%

Source: Companies' Annual Reports

International Markets Observations

The wireless market in Canada, although similar to that of the U.S., is significantly different from most other international markets. At the end of 2003, penetration rates (per 100 population) in Canada (41%) and the U.S. (54%) were much lower than in other major markets (between 60-100%), as North American markets are still maturing.

Several key factors separate the Canadian market from other major international markets. These include:

- Technology platform: the Canadian digital market is characterised by multiple platforms (GSM, CDMA, TDMA, etc.,) whereas GSM is the standard for all of the European countries.
- Percent of pre-paid subscribers: the Canadian market has a much smaller percentage of pre-paid subscribers than most other markets.
- Other factors include the quality of the underlying wireline network (higher in Canada than most other jurisdictions), local number portability (not required in Canada), and Calling Party Pays (not mandated in North America but used in most other countries).

Paging

The number of subscribers in the paging market decreased over the previous year by 13.0%, and the revenues declined 8.2%.

Bell Mobility, RWI and TELUS continued to dominate the market, accounting for just over 90% of the paging revenues in 2003.

Mobile Coverage

The maps on the following pages show mobile coverage across Canada, first by type of technology (digital/analog) and then by the number of service providers.

As displayed on the map, digital wireless service was recently made available in the north. However, as was the case in 2002, mobile coverage did not expand significantly in 2003. Capital expenditures continued to decrease (see section 4.1) due to the companies' decision to focus on roaming/resale agreements rather than on expanding their networks. As the wireless market evolves, it is expected that new technologies will enable the industry to offer additional, as well as, enhanced services.

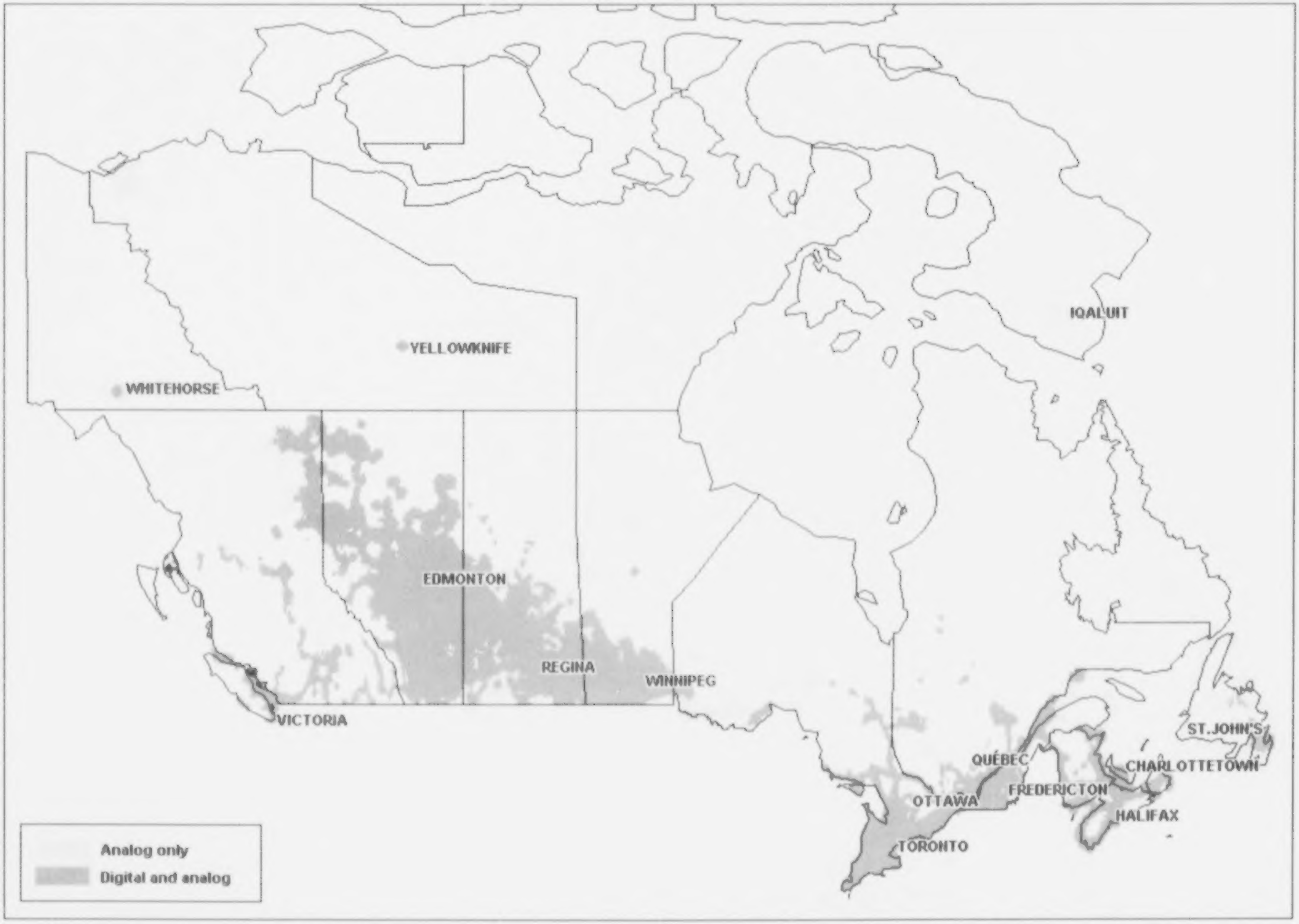
Summary

The wireless market continues to grow. The size of the market, both in terms of revenues and subscribers, increased significantly in 2003.

Market share, based on revenue on a national basis, of the three largest carrier groups (TELUS, BWA and RWI), continues to exceed 90%. The ARPU, after several years of decline, stabilized in 2002 and increased slightly in 2003. The churn rate continues to be low.

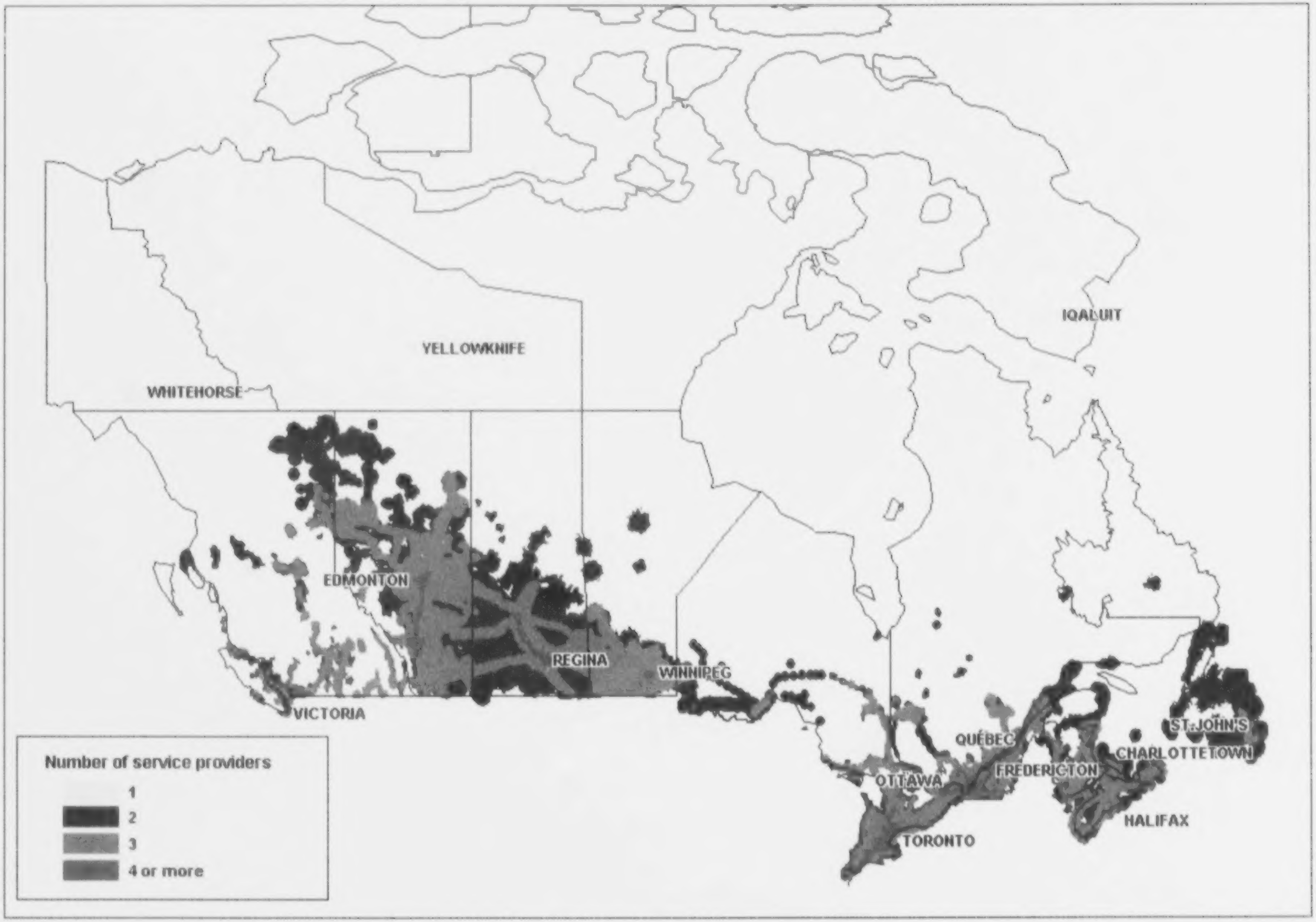
However, not all segments of the market expanded. Paging continued its downward trend in 2003 as customers switched to other mobile technologies.

National Mobile Coverage (Digital and Analog Service)



IQALUIT
YELLOWKNIFE
WHITEHORSE
EDMONTON
REGINA
WINNIPEG
VICTORIA
ST. JOHN'S
QUÉBEC
CHARLOTTETOWN
FREDERICTON
OTTAWA
HALIFAX
TORONTO
Analog only
Digital and analog

Presence of Mobile Service Providers


WHITEHORSE
YELLOWKNIFE
IQALUIT
EDMONTON
REGINA
WINNIPEG
VICTORIA
QUÉBEC
OTTAWA
FREDERICTON
TORONTO
ST. JOHN'S
CHARLOTTETOWN
HALIFAX
Number of service providers
1
2
3
4 or more

4.6 Data and Private Line

Highlights

- Over the 2001 to 2003 period, data and private line revenue growth declined from 12.6% in 2001 to -1.4% in 2003.
- Data revenue grew by 4.4% in 2003.
- The contraction of private line revenue continued from -2.9% in 2002 to -6.3% in 2003.
- Data revenue distribution is trending towards IP and Ethernet services.
- Competitors' share of data revenues in 2003 remained relatively unchanged at 23% in 2003.
- Competitors' share of private line revenues declined from 17% in 2002 to 16% in 2003.

Sector Description

a) Description of Services

Data services are used to provide access to, and connectivity between, local area data, video and voice networks to establish dedicated or virtual private networks (VPNs) within a metropolitan area or on a broader national or international scale, providing customers with managed local area network and wide area network services. Data services include X.25 (packet switched network), Frame Relay, Asynchronous Transfer Mode (ATM), IP-VPN and Ethernet.

Private line services provide the capability to link two or more locations over dedicated facilities for the purpose of transporting data, voice or video traffic. Private line services include high-capacity digital transmission services (at speeds ranging from 56/64 Kbps to gigabit speeds over fibre) and digital data systems, as well as voice grade and other analog services.

b) Markets and Observations

The data and private line market segment is the third largest telecommunications segment with an annual growth rate of approximately 3.2% over the period 2000 to 2003, and revenues of $4.5 billion or roughly 14% of total telecommunications revenues in 2003. Data revenues represent 49% of the data and private line revenues, up from 46% in 2002.

The 1.4% decline in data and private line revenue in 2003 is attributable to the private line market, which declined approximately 6.3%, partly offset by the 4.4% increase in data revenues in 2003. With sales to competitive service providers via the wholesale channel representing 46% of private line sales, the continuing consolidation within the industry, coupled with aggressive price competition, has resulted in an approximately 14% reduction in long-haul wholesale private line revenue.

Facilities-based competitors were able to utilize the incumbents' Competitor Digital Network Access (CDNA) service, introduced in June 2002, for the entire 2003 calendar year. This service is a lower cost alternative to the equivalent retail service previously used by competitors to make the "last-mile" connection to their customers.

CDNA service can be used by competitors to deliver local voice, data and private line, and Internet services to their customers. The savings of between 40% and 80% relative to the retail equivalent are reflected in the reduction of competitors' inter-carrier expense-to-revenue ratio shown in section 4.1, Table 4.1.3.

Table 4.6.1
Data and Private Line Revenues[55]
($ millions)

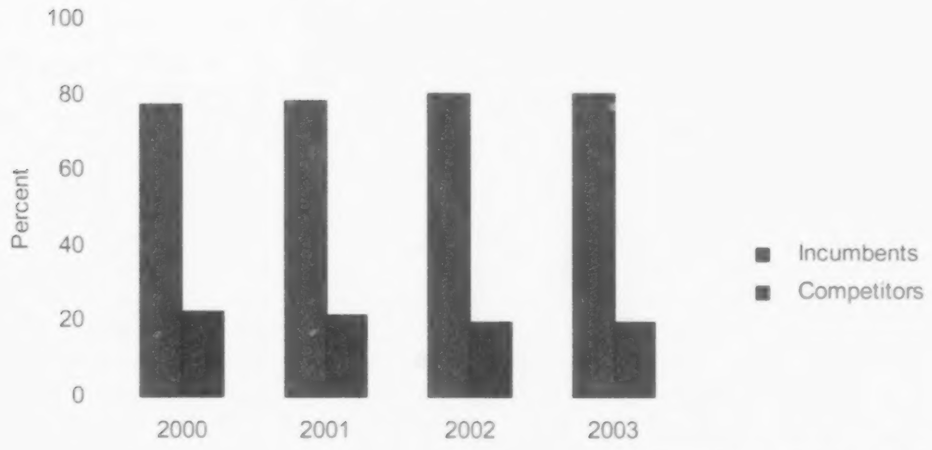
	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 2000-2003*
Data	1,883 #	2,069 #	2,092 #	2,184	*4.4%*	*5.1%*
Private Line	2,201 #	2,528 #	2,454 #	2,300	*-6.3%*	*1.5%*
Total	4,084 #	4,597 #	4,546 #	4,484	*-1.4%*	*3.2%*

Source: CRTC Data Collection

c) Sector Participants

Data and private line services are provided by a number of players including both wireline and satellite service providers. These include the incumbent carriers, satellite service providers, both facilities- and resale-based competitive service providers, cable companies and, more recently, utility telephone companies. Data and private line services are marketed to end-customers in the retail market and to other service providers as wholesale services that are either resold directly or used to construct underlying networks used to deliver products and services to their end-customers in the retail market.

Figure 4.6.1
Data and Private Line Revenues
Incumbents v. Competitors



Source: CRTC Data Collection

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[55] Prior year amounts, denoted by # have been restated to reflect new and/or updated information provided by survey respondents. Additionally, some prior year revenues have been reclassified within market segments to provide a consistent basis for comparison with the current year's data.

Figure 4.6.1 provides a summary of the incumbents' and competitors' share of data and private line revenues (including retail and wholesale) for the years 2000 to 2003. The sector revenues have decreased in 2003 by approximately 1.4%, and the competitors' share of the slightly smaller market remains relatively unchanged from 2002 at 20%.

d) Regulatory Framework

Competition was first permitted in the interexchange private line and data market in 1979. The Commission has since forborne from regulating many of the incumbents' data services as well as their private line services on many interexchange routes.

Generally, the Commission forbears pursuant to section 34 of the Act when it considers that the service is, or will be, subject to a level of competition sufficient to protect the interest of users of the service. Order 99-434[56] directs competitors to file with the Commission on 1 April and 1 October of every year, the list of interexchange private line routes on which they provide service at the equivalent of a DS-3 (44.736 Mbps) bandwidth, using their own terrestrial facilities, or terrestrial facilities leased from other than an ILEC or an affiliate of an ILEC. The Order further stated that upon the Commission being satisfied that one or more competitors meet this criterion, it would proceed quickly to forbear without process given that the evidence on which the forbearance determination would be made stems from the ILEC's competitors. Incumbents are also free to apply for forbearance at any time.

X.25 and Frame Relay services were forborne from regulation under Order 96-130[57] in February 1996. Under Order 2000-553[58] in June 2000, wide-area network (WAN) services were forborne from regulation. The access components of ATM and Ethernet services continue to be regulated.

In Decision 2002-34, the Commission directed the ILECs to make available to competitors CDNA service, which they did with the filing of interim tariffs in June 2002. Relative to the retail equivalent, CDNA service provides facilities-based competitors with an equally robust but lower cost means of terminating their services to the end-customer. The Commission further determined that the associated reduction of the ILECs future revenues is due to a policy decision and thus, is eligible for compensation from their deferral account. CDNA service is captured by the incumbents as short-haul private line wholesale revenues, and as an inter-carrier expense by the competitors.

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[56] Telecom Order CRTC 99-434, 12 May 1999.

[57] Telecom Order CRTC 96-130, 19 February 1996.

[58] Order CRTC 2000-553, 16 June 2000.

Market Segments

Data Services

For the purpose of this report, data service revenues have been disaggregated into four categories: X.25, Frame Relay, ATM, and Other (including IP-VPN and Ethernet). A summary of the data service revenues for the period 2000 to 2003 and for each of the major categories as provided by the industry, is contained in Table 4.6.2.

As Table 4.6.2 illustrates, in 2003, total retail and wholesale data service revenues were approximately $2.1 billion, representing an increase of approximately 2.7% over the previous year. While retail data revenues increased by 1.9% over 2002, wholesale revenues grew by approximately 8.1%.

The growth rate of the individual data service categories, both retail and wholesale, vary considerably. With respect to specific services, in 2003 X.25 revenues decreased by 10.6%, Frame Relay revenues increased by 1.8% and ATM service revenues declined 3.3%. The decline/flattening of older services revenue is not surprising given the industry's continuing trend towards the adoption of newer services such as VPNs and Ethernet, which, as displayed in Table 4.6.2, have shown substantial growth in 2003. IP-VPN service revenues, although a small portion of data revenues, increased by approximately 74% in 2003, followed by Ethernet revenues, which increased by approximately 34%.

The make-up of the data services segment is dynamic. Over time, advances in networking technologies and capacity allow service providers to respond to customer demand with the introduction of new services. These new services are captured in the Other services category of the report, as was the case in last year's monitoring report which initially quantified IP-VPN and Ethernet revenues. The Other category also includes non-protocol service items such as network management and equipment sales, the latter of which can be highly variable.

Table 4.6.2
Data Service Retail and Wholesale Revenues by Service Category[59]
($ millions)

	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 2000-2003*
X.25						
Retail	134.7 #	140.6 #	134.4 #	131.2	-2.4%	*-0.9%*
Wholesale	19.3	20.2	22.5	9.1	-59.4%	*-22.0%*
Total	154.0 #	160.9	156.9 #	140.3	-10.6%	*-3.0%*
Frame Relay						
Retail	499.9 #	518.0 #	564.4 #	573.7	1.6%	*4.7%*
Wholesale	65.1	80.4	73.7	76.0	3.2%	*5.3%*
Total	565.1 #	598.4	638.1 #	649.7	1.8%	*4.8%*
ATM						
Retail	67.1	96.7	116.0 #	109.5	-5.6%	*17.7%*
Wholesale	8.2	8.8	12.4	14.6	17.7%	*21.4%*
Total	75.3	105.5	128.4 #	124.2	-3.3%	*18.1%*
Other						
IP-VPN	n/a	n/a				
Retail			38.6 #	64.9	68.2%	
Wholesale			0.1	2.4	n/a	
Sub-Total			38.6 #	67.2	74.0%	
Ethernet	n/a	n/a				
Retail			272.5 #	351.3	28.9%	
Wholesale			24.7	48.1	94.9%	
Sub-Total			297.2 #	399.4	34.4%	
Remaining Other	n/a	n/a				
Retail			704.3	634.6	-9.9%	
Wholesale			128.3	132.6	3.3%	
Sub-Total			832.6	767.2	-7.9%	
Total Other						
Retail	811.7 #	933.7 #	1,015.4 #	1,050.7	3.5%	*9.0%*
Wholesale	276.8	270.7	153.0	183.0	19.6%	*-12.9%*
Total	1,088.6 #	1,204.4 #	1,168.4 #	1,233.7		
Total Data						
Retail	1,513.5 #	1,689.1 #	1,830.2 #	1,865.1	1.9%	*7.2%*
Wholesale	369.4	380.2	261.7	282.8	8.1%	*-8.5%*
Total	1,882.9 #	2,069.3 #	2,091.9 #	2,147.9	2.7%	*4.5%*

Source: CRTC Data Collection
n/a: not available

As illustrated in Figure 4.6.2, the competitors' share of data service revenues remained relatively unchanged since 2000, at approximately 23%. The competitors share of the data services segment, net of hardware sales and network management is 27%.[60]

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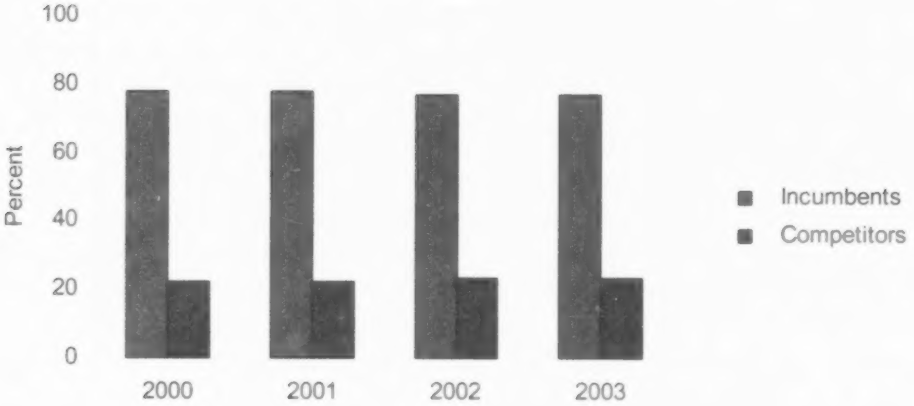
[59] Data service revenues provided by the smaller service providers using the simplified forms is not included in this table. In 2003, this represented approximately $36 million.

[60] Source : CRTC Data Collection.

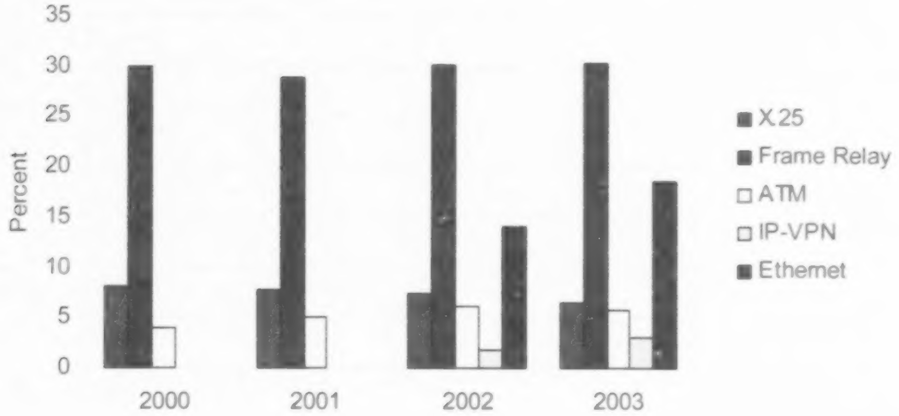
Figure 4.6.2
Data Service Revenues
Incumbents v. Competitors



Source: CRTC Data Collection

Due to the varying growth rates in specific data service revenues, the distribution of service revenues within the data sector changed significantly between 2000 and 2003. As shown in Figure 4.6.3, the share of revenues attributable to X.25, Frame Relay and ATM have all decreased or remained relatively flat in 2003, whereas the revenue shares of IP-VPN and Ethernet have increased. IP-VPN increased from 1.8% in 2002 to 3.1% in 2003 and Ethernet increased from 14.2% in 2002 to 18.5% in 2003. This shift in revenue distribution is expected to continue as service providers migrate end-users from older and more costly technology platforms to more efficient platforms. The trend towards the use of secure VPNs over both private IP networks and the Internet will also contribute to this shift.

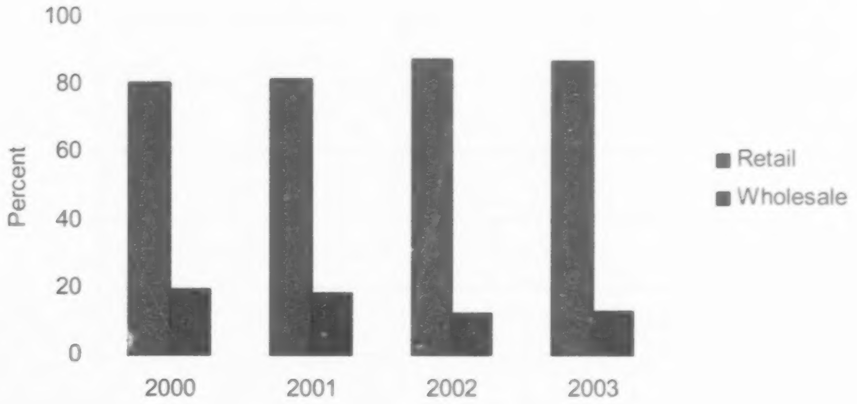
Figure 4.6.3
Data Services
Revenue Distribution by Service Category



Source: CRTC Data Collection

Figure 4.6.4 illustrates the split between retail and wholesale markets within the data service segment. Wholesale data service revenues increased slightly to 13% of the data service segment.

Figure 4.6.4
Retail and Wholesale Revenues
as a Percentage of Total Data Service Revenues



Source: CRTC Data Collection

As displayed in Table 4.6.3, the competitors' share of total data service revenues is approximately 23%. However, within specific market segments, the competitors' share of these revenues varies widely from approximately 2% for X.25 service to 40% for Frame Relay. The low competitor share of the X.25 market is because few competitors offer the service.

Table 4.6.3
Market Share by Data Service Category

	2000	2001	2002	2003
X.25				
Incumbents	100%	100%	100%	98%
Competitors	0%	0%	0%	2%
ATM				
Incumbents	52%	43%	59%	48%
Competitors	48%	57%	41%	52%
Frame Relay				
Incumbents	54%	55%	59%	60%
Competitors	46%	45%	41%	40%
Ethernet				
Incumbents	n/a	n/a	90%	84%
Competitors	n/a	n/a	10%	16%
IP-VPN				
Incumbents	n/a	n/a	88%	90%
Competitors	n/a	n/a	12%	10%
Total				
Incumbents	78%	78%	77%	77%
Competitors	22%	22%	23%	23%

Source: CRTC Data Collection
n/a: not available

In 2003, Ethernet revenues represented 32% of the revenues in the Other category displayed in Table 4.6.2, up from 26% in 2002.[61] In 2003, competitors had 16% of the Ethernet revenues versus 10% in the previous year.[62] The industry is introducing new data services to meet customer requirements for increased speed, functionality and reduced cost. Ethernet and IP based VPN solutions are new services that meet these customer requirements and tend to replace existing mature data services such as X.25, Frame Relay and ATM. Both incumbents and competitors are aggressively introducing these new services into the marketplace to capture market share in the data service segment.

Private Line Services

Private line service is non-switched point-to-point or multipoint connections that can be used for voice, data and video transmissions with various bandwidths. Private lines can be analog or digital, and be provided over copper wire, fibre optics or satellites. In this report, private line services have been disaggregated into two main categories: short-haul and long-haul private lines. A further breakdown of long-haul service between satellite and terrestrial providers is also provided.

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[61] Source: CRTC Data Collection

[62] Source: CRTC Data Collection

Table 4.6.4 provides a summary of industry-wide revenues for the years 2000 to 2003 for both short- and long-haul private line services.

Table 4.6.4
Private Line Service Retail and Wholesale Revenues by Market Segment[63]
($ millions)

	2000	2001	2002	2003	*Growth 2002-2003*	*CAGR 2000-2003*
Short-Haul						
Retail	385	471	527	523	*-0.6%*	*10.8%*
Wholesale	259 #	342 #	440 #	455	*3.4%*	*20.6%*
Total	644 #	813 #	966 #	978	*1.2%*	*14.9%*
Long-Haul						
Retail	922	971	800	712	*-10.9%*	*-8.3%*
Wholesale	635 #	744 #	688 #	590	*-14.3%*	*-2.4%*
Total	1,557 #	1,715 #	1,488 #	1,302	*-12.5%*	*-5.8%*
Total						
Retail	1,307	1,442	1,326	1,235	*-6.9%*	*-1.9%*
Wholesale	894 #	1,086 #	1,128 #	1,044	*-7.4%*	*5.3%*
Total	2,201 #	2,528 #	2,454 #	2,280	*-7.1%*	*1.2%*

Source: CRTC Data Collection

Total private line revenues were $2.3 billion in 2003, a decrease of 7.1% over 2002. While short-haul revenues grew slightly in 2003, the long-haul segment declined by 12.5%. Long-haul revenue represents 57% of the private line segment, down from 61% in 2002.

Figure 4.6.5 displays the incumbents' and competitors' share of private line revenues from 2000 to 2003. Incumbents are gaining a greater share of a declining private line market that, as mentioned above, declined by 7.1% in 2003. In 2003, the competitors' share of private line revenues was 16%, down from 17% in the previous year.

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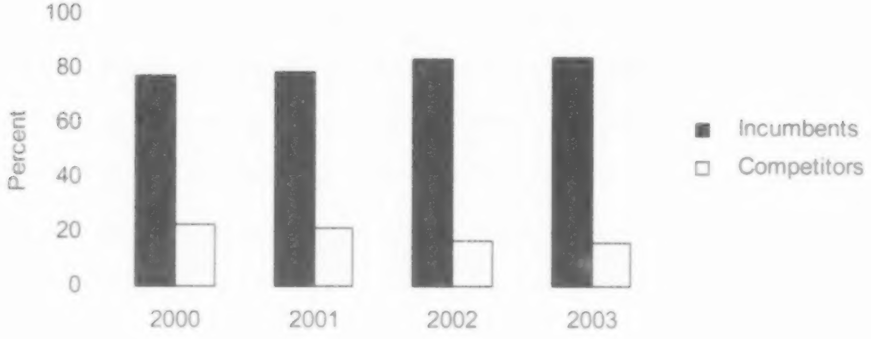
[63] Private line revenues provided by the smaller service providers using the simplified forms are not included in this table. In 2003, this represented approximately $20 million.

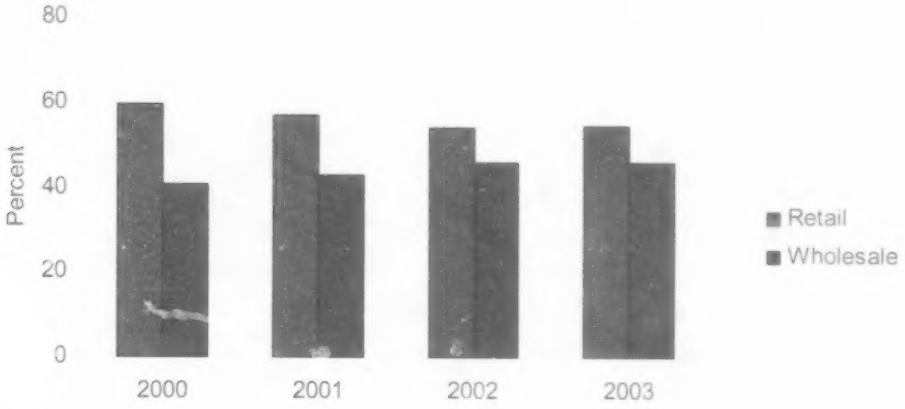
Figure 4.6.5
Private Line Service Revenue Trends
Incumbents v. Competitors



Source: CRTC Data Collection

Wholesale revenues for the short-haul and long-haul market segment increased 3.4% and declined 14.3% respectively, over the previous year.

Figure 4.6.6
Private Line Service Revenue Distribution
Retail v. Wholesale



Source: CRTC Data Collection

As shown in Figure 4.6.6, wholesale revenues represented 46% of the private line market in 2003.

Wholesale private line service revenues grew from 2000 to 2002 at an annual growth rate of 12.3%. Most of this was attributable to the growth in short-haul wholesale revenues that increased from $259 million in 2000 to $440 million in 2002, representing an annual growth rate of roughly 30%. This trend ended in 2003.

The decline in long-haul wholesale revenues in 2003 is a proxy for both market forces and corporate activity within the industry. Both facilities-based service providers and resellers augment or construct their backbone networks with high-capacity private line circuits provided through the wholesale channel of other service providers. Thus, the decline in revenue may be attributed to:

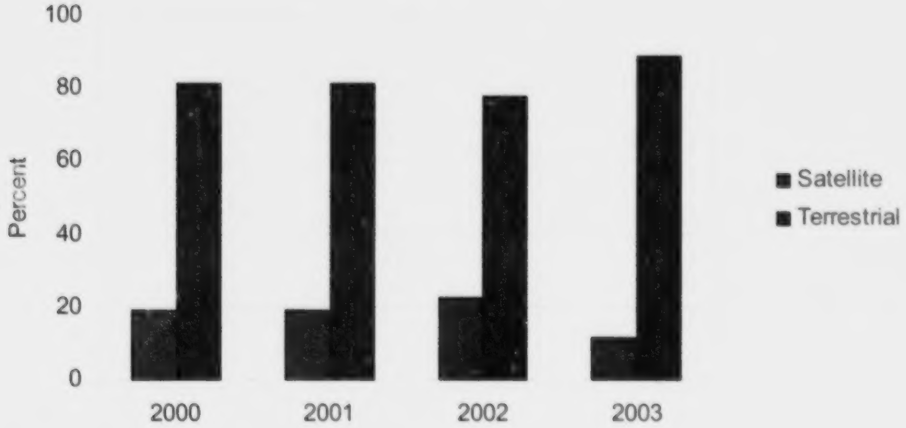
- industry consolidation as service providers acquire the facilities of companies that have exited the industry;
- aggressive price reductions, which in some cases were as high as 40% to 50%; and
- network optimization efforts targeted to reduce operating expenses.

Additionally, regulatory actions in 2002 made lower cost short-haul access circuits available to facilities-based competitors throughout 2003. The incumbents provide the majority of these circuits within the industry, thus the 40% to 80% rate reductions (relative to the retail equivalents), combined with access optimization efforts by competitors, contributed to a muted increase in short-haul revenues. These changes in access rates are reflected in reductions of competitors' inter-carrier expense-to-revenue ratios, as shown in section 4.1, Table 4.1.3.

Within the retail market, where revenue declined by 7.4%, price competition as well as the increasing use of VPN's over private IP networks and the Internet is reducing the demand for private line services.

Long-haul private line services are provided over terrestrial facilities as well as via satellites. The share of the total retail and wholesale private line revenues provided via satellites decreased from 22% in 2002 to 11% in 2003, as displayed in Figure 4.6.7.

Figure 4.6.7
Long-Haul Private Line Service
Satellite v. Terrestrial Facilities



Source: CRTC Data Collection

The incumbents accounted for approximately 84% of the revenues in the private line market, as illustrated in Table 4.6.5, which provides a breakdown of incumbents' and competitors' revenue-based market share in the private line market for the 2000 to 2003 period.

Table 4.6.5
Private Line Service Revenues
Short-Haul and Long-Haul Market Share

	2000	2001	2002	2003
Short-Haul				
Incumbents	94%	96%	92%	92%
Competitors	6%	4%	8%	8%
Long-Haul				
Incumbents	71%	70%	78%	79%
Competitors	29%	30%	22%	21%
Total				
Incumbents	77%	79%	83%	84%
Competitors	23%	21%	17%	16%

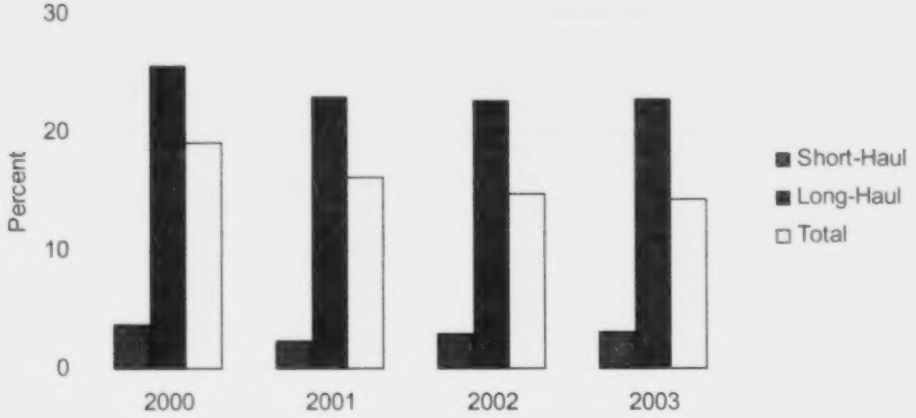
Source: CRTC Data Collection

Over the 2000 to 2003 period, the competitors' share of private line revenues steadily declined, decreasing from 23% in 2000 to 16% in 2003. Competitors' share of short-haul revenue remained flat at 8% in 2003, whereas their share of the long-haul market segment declined from 22% to 21% over the same period.

Over the past four years, the competitors' market share of the retail private line market has steadily declined. By 2003 the retail market held by competitors had declined to 14%.

Figure 4.6.8 illustrates the trend in competitors' retail private line market share over the period 2000 to 2003.

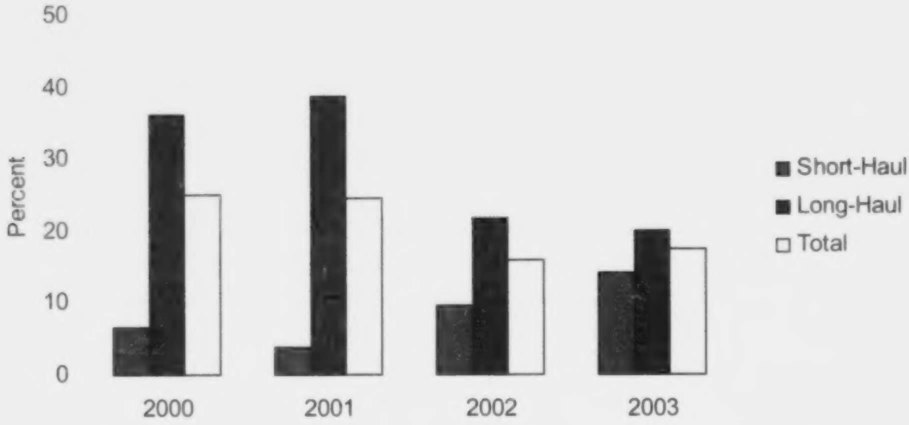
Figure 4.6.8
Retail Private Line Revenues
Competitors' Market Share



Source: CRTC Data Collection

Contrary to the retail market, in 2003 the competitors share of wholesale private line revenue increased slightly from 16% to 17%. This is due to growth in 2003 of short-haul revenue share from 10% to 14%, tempered by a decline in long-haul revenue share from 22% to 20%. Although wholesale short-haul revenue share has grown from 4% to 14% for the period 2001 to 2003, the overall wholesale private line trend over this same period is down from the 24% revenue share held in 2001. This decline is due to the loss of long-haul revenue share from 39% to 20%. Figure 4.6.9 illustrates the trend in competitors' wholesale private line revenue share over the period 2000 to 2003.

Figure 4.6.9
Wholesale Private Line Service Revenues
Competitors' Market Share



Source: CRTC Data Collection

As displayed in Table 4.6.4, in 2003 wholesale private line service revenues were approximately $1.0 billion. The incumbents accounted for roughly 84% of wholesale revenues.[64] Wholesale private line service revenues decreased by 7.4% in 2003 and displayed annual growth rates of 5.3% since 2000. Wholesale short-haul private line service revenues increased 3.4% in 2003. The decrease in overall wholesale revenues is attributable to industry consolidation, aggressive price competition, and regulatory activity.

Summary

In just three years, data and private line revenue growth has gone from a growth rate of 12.6% in 2001 to a decline of 1.4% in 2003. The industry has experienced some major developments ranging from aggressive price competition to the introduction of new platforms that migrate revenues from the older technologies to the newer less costly platforms.

The competitors' share of data and private line revenues declined to just below 20%. With respect to data services revenues, retail service revenues increased 1.9% in 2003, while the wholesale service revenues increased by 8.1%, resulting in an overall increase of 2.7%. The competitors' share of data revenues remained relatively unchanged at 23% in 2003. The majority of the increase in data revenue was attributed to the retail market, which were mainly flat or declining for older technologies such as X.25 and Frame Relay and growing for newer services such as Ethernet and IP-VPN, which showed strong growth of 34% and 74% over 2002, respectively.

Private line service revenues decreased in 2003 by 7.1% extending the 2.9% decline observed in 2002. The competitors' share of these revenues decreased from roughly 17% in 2002 to 16% in 2003. The decline in private line service revenues is mainly due to aggressive price competition in the wholesale market and consolidation of facilities-based service providers within the industry.

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[64] Source: CRTC Data Collection.

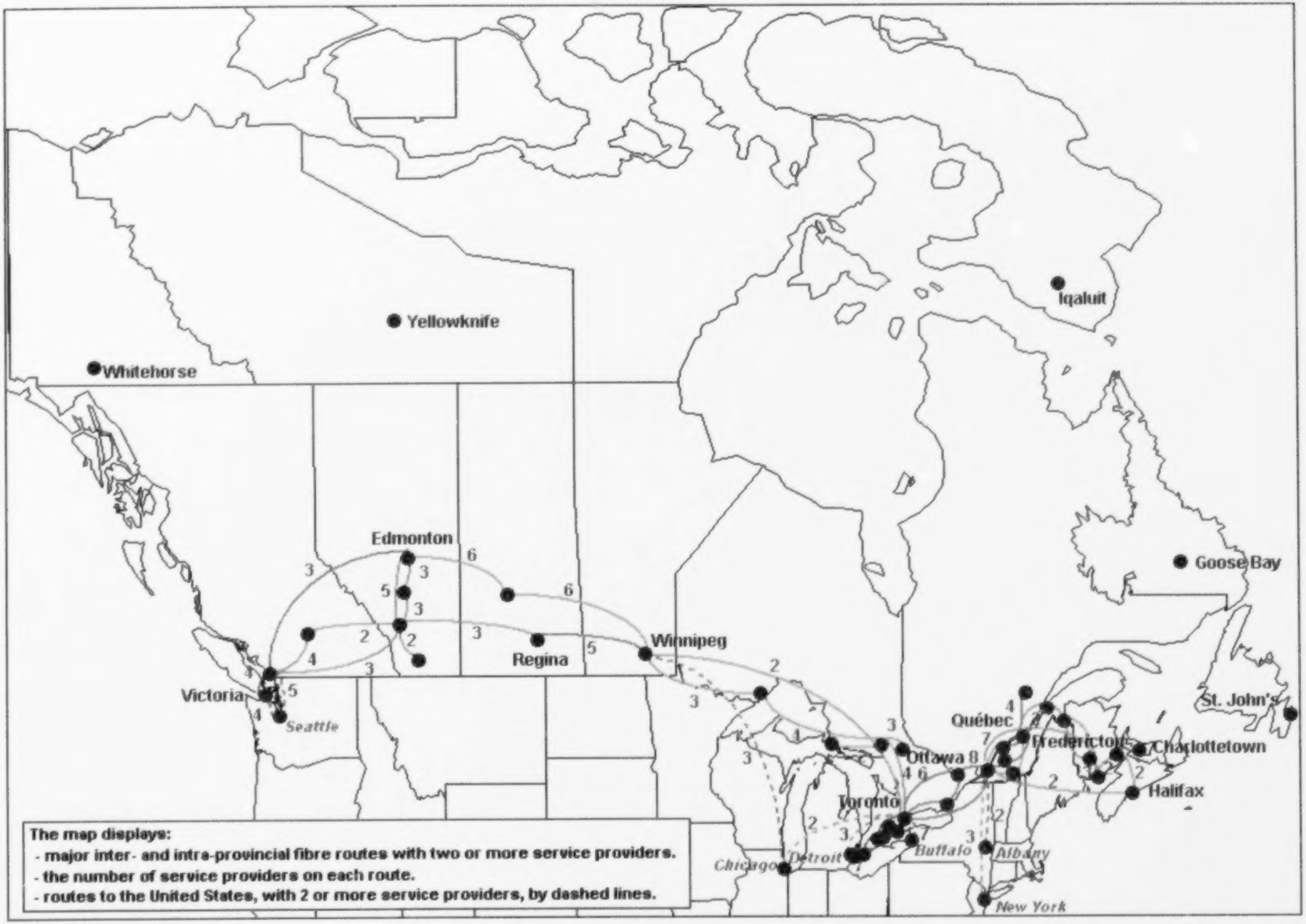
4.7 Fibre Backbone

Fibre backbone is utilized by telecommunications carriers to provide local, long distance, data and private line services to both retail and wholesale customers.

The fibre backbone is the core network that connects two or more network nodes for the purpose of transiting network traffic between edge nodes. The following map displays all fibre routes between major cities that have two or more providers of fibre backbone. The number appearing beside the route indicates the number of providers on that route. The map graphically displays the extent to which facilities-based competition has evolved for the transport of telecommunications traffic. The solid lines display the fibre routes between Canadian cities, whereas the dashed lines identify the routes to U.S. cities.

Fibre backbone networks are one of the ingredients used by carriers to provide the capacity which the industry uses for connectivity and applications.

Fibre Backbone Routes


Whitehorse
Yellowknife
Iqaluit
Goose Bay
Edmonton
Regina
Winnipeg
Victoria
Seattle
Toronto
Ottawa
Québec
Fredericton
Charlottetown
Halifax
St. John's
Chicago
Detroit
Buffalo
Albany
New York
3
6
3
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4 6
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2

The map displays:
- major inter- and intra-provincial fibre routes with two or more service providers.
- the number of service providers on each route.
- routes to the United States, with 2 or more service providers, by dashed lines.

4.8 Pay Telephones

Highlights

- There was a continued overall decline in the number of incumbent pay telephones in Canada in 2003 to 153,000 pay telephones, down 2.8% from 2002.
- The average revenues generated per incumbent pay telephone also continued to decline in 2003, to approximately $1,500 per pay telephone annually, down 16% from 2002.
- Competitor pay telephone growth was stagnant, at approximately 6,000 lines in 2003, with annual revenues of approximately $1,400 per pay telephone.

Sector Description

a) Description of Services

Pay telephones are public telephone terminals that provide coin-based or card-based billing on a per transaction basis. Pay telephones can be always accessible to the public, such as those located outdoors or semi-public such as those located in malls or private premises such as restaurants. They can also be located in transportation vehicles such as airplanes and trains. More sophisticated pay telephone offerings now include such services as PSTN data jack, PSTN fax, Internet web, Internet E-Mail, Short Messaging Services (SMS) and WiFi.

In 2003, the pay telephone market sector generated $0.23 billion in revenues billed directly at the pay telephone location. Local calling charges make up 51% of pay telephone revenues, with the remaining 49% generated through long distance and other charges. In comparison, local calling constituted approximately 93% of traffic originated at a pay telephone.

b) Sector Participants

The updated registration list of CPTSPs indicates that approximately 200 CPTSPs operate pay telephones in Canada. Beyond the incumbent telephone companies, the majority of registered pay telephone providers are small entities, operating between 1 and 10 pay telephones. Those providers having between 10 and 100 pay telephones also tend to be confined within a small region, with only one competitor claiming a national presence.

c) Regulatory Framework

In Decision 98-8,[65] the Commission permitted competition in the local pay telephone market. This decision also established consumer safeguards. The Commission retained rate regulation of pay telephone services offered by the incumbents, but refrained from regulating pay telephone rates of new entrants.

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[65] *Local pay telephone competition*, Telecom Decision CRTC 98-8, 30 June 1998.

d) Regulatory Developments in the Past Year

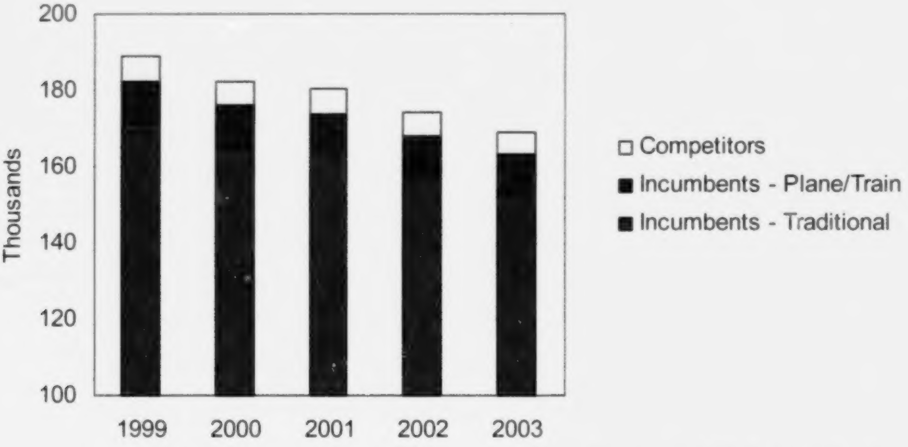
In July 2004, the Commission issued Decision 2004-47[66] which among other things, established a notification process for the removal of the last ILEC operated pay telephone from a location that is scheduled for removal.

Market

The number of stationary incumbent pay telephones in Canada has continued to decline since the first full year of competition in 1999, by 2.8% annually. For the CPTSPs, the number of lines has also declined in recent years, as their profitability has continued to decline. The number of CPTSPs on the Commission's registration list declined over the years from a peak of approximately 460 providers, to approximately 200 providers.

Figure 4.8.1 presents a display of the number of pay telephone providers for the years 1999 to 2003.

Figure 4.8.1
Number of Pay Telephones



Source: CRTC Data Collection

Over the same period, total revenues have declined by an annual rate of 18.5%, reflecting decreasing billing at pay telephones, particularly for long distance calling. As of 2003, the average annual revenue per pay telephone was approximately $1,500, down 16.0% from 2002. The continuing decline in revenues is attributed to the continued strong growth in cellular usage, and the growing use of alternate billing from phone card providers, either in the form of prepaid cards or cards that permit billing to the users home or business line.

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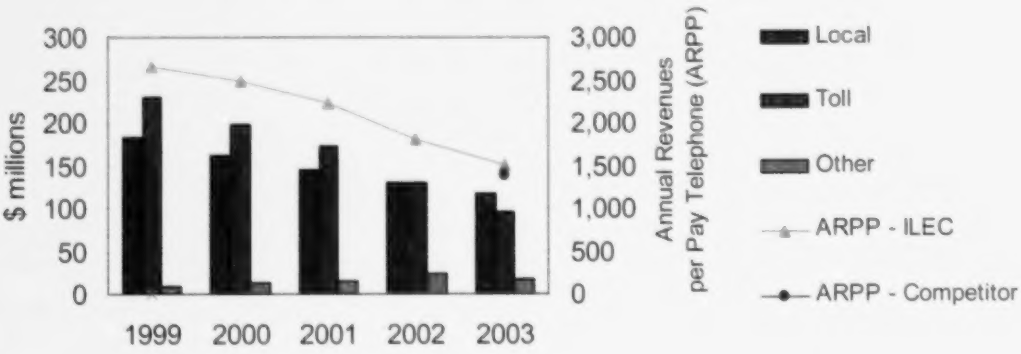
[66] *Access to pay telephone service*, Telecom Decision CRTC 2004-47, 15 July 2004.

Figure 4.8.2 illustrates the declining revenues associated with pay telephones for the period 1999-2003. Long distance revenues declined at an annual rate of 19.4% over the time period, while local revenues declined 10.6% over the same period. This has been offset in part by growth in other revenues, namely a $0.25 per message charge for calls to 800 service numbers that are provided by a long distance service provider other than the pay telephone provider.

Figure 4.8.2
Pay Telephone Revenues



Source: CRTC Data Collection

Summary

The pay telephone market continues to be affected by declining revenues, as the increasing market penetration of cellular phones in the marketplace has reduced the demand for public pay telephones. In addition, alternate payment methods, such as prepaid phone cards, continue to impact revenues typically collected at the pay telephone.

Due to these continuing market trends, the ability of new players to enter and to sustain themselves in this market on a large scale has been difficult. As such, the predominant market share will, in all likelihood remain with the incumbent carriers, while alternative providers of pay telephone service will be primarily limited to small private operations.

5.0 Broadband Availability and Promising Means for Accelerated Broadband Deployment

Highlights

- Broadband service is available to approximately 86% of Canadian households.
- Broadband service is available to 95% of the households in urban centres and approximately 63% of the households in rural centres.
- Of those who can have broadband service, approximately 42% actually subscribe to the service.

5.1 Introduction

The Government of Canada has announced its goal to narrow the "digital divide" between Canadians living in urban and rural and remote communities by ensuring that broadband networks and services are available in every Canadian community. Indeed, other levels of government, both provincial and territorial, are pursuing this same objective.

With the utilization of new technologies or platforms, companies are developing new means of delivering telecommunications services or offering a package of telecommunications and video services, all of which require broadband access.

This section reviews the extent to which broadband access is available in both rural and urban centres in Canada and the extent to which Canadians subscribe to broadband service. The remaining portion of this section reviews the promising means for accelerated broadband deployment.

5.2 Geographic Broadband Deployment in Urban and Rural Areas

While broadband access has been widely available in urban and large communities, many smaller communities do not have access to broadband services. As of year end December 2003, approximately 29% of the communities in Canada had access to broadband services.[67] However, when viewed on a household basis, over 86% of Canadian households can have access to broadband services. On an urban versus rural[68] basis, over 95% of Canadian households in urban centres, representing 72% of the households in Canada, can have access to broadband service versus 63% for rural[69] centres.[70] Figure 5.2.1 compares the availability of broadband access for urban and rural households. On a provincial/territorial basis, broadband access is available to over 80% of the households for all provinces except for the Atlantic provinces and the North where this falls to between 52% and 75%.

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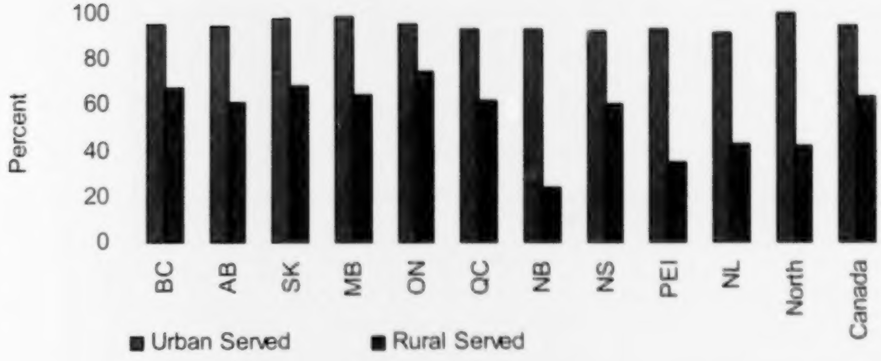
[67] Source: Industry Canada: Broadband Directorate.

[68] Urban is defined as built up areas within Census Metropolitan Areas (CMAs), being classified as urban cores, urban fringes, and secondary urban cores. Rural is defined in accordance with the "rural areas and small towns" definition of Statistics Canada. This includes rural fringes, which are rural areas within CMAs, and urban areas outside of CMAs.

Figure 5.2.1
Broadband Availability
(Percent of Households)



Source: Industry Canada and CRTC Data Collection

As displayed in Figure 5.2.2, although 86% of Canadian households can have access to broadband services, 42% of these households actually subscribe to the service.

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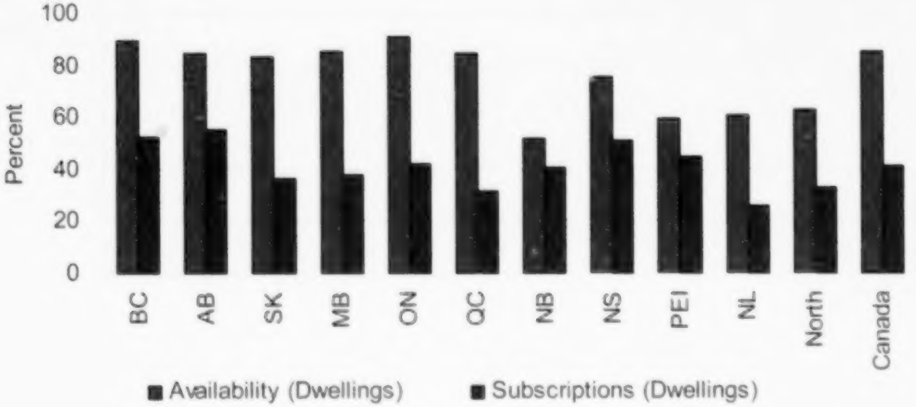
[69] It should be noted that the methodology used to identify broadband availability in rural areas may overstate availability of broadband service in rural areas, since communities are taken to be served if service is reported within them.

[70] Due to granularity of the postal code structure in urban centres, broadband details by postal code collected by the CRTC data collection system were used to identify the availability of broadband service within urban centers. However, in rural areas and the North where the postal structure does not lend itself to data collection in sparsely populated areas, information gathered by Industry Canada was utilized.

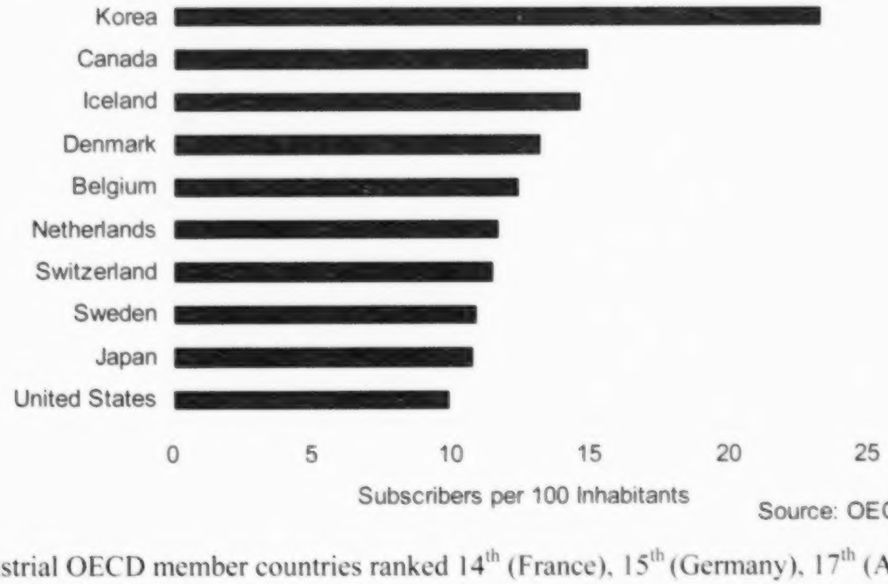
Figure 5.2.2
Broadband Availability v. Subscriptions



Source: Industry Canada and CRTC Data Collection

On an international level, in 2003, Canada has the second highest broadband penetration rate when compared to the 30 member countries of the OECD. Figure 5.2.3 displays broadband penetration for 10 of the 30 member countries of the OECD having the highest penetration rate. As displayed in Figure 5.2.3, only Korea had a higher penetration level.

Figure 5.2.3
Broadband Access in OECD Countries
Per 100 Inhabitants (2003)



Source: OECD

Other industrial OECD member countries ranked 14th (France), 15th (Germany), 17th (Australia) and 20th (United Kingdom).

5.3 Promising Means for Accelerated Broadband Deployment

Section 5.0 of last year's Monitoring Report provided a detailed overview of various government funded programs to support the deployment of broadband access and transport facilities in rural, remote, northern and First Nations communities. Details of various federal, provincial and territorial government broadband deployment programs were provided including the objectives, time frames and funding levels for the various programs.

In what follows, an overview is provided of several new initiatives launched over the past year along with a summary of ongoing federal, provincial and territorial government sponsored broadband deployment initiatives. In addition, an estimate of progress made to date as a result of these programs is provided.

5.4 Federal Government Broadband Programs

At the federal level, one of the key initial steps taken to narrow the "digital divide" was the establishment of the National Broadband Task Force (NBTF) in early 2001. In its 2001 final report, the NBTF recommended two alternative models or approaches that could be effectively used to deploy broadband services to communities where market forces alone are unlikely to result in the delivery of such services. These were:

i) A "demand-oriented", bottom-up, *community aggregator/champion model* aimed at providing incentives to stimulate demand for broadband capabilities within currently unserved communities by directly supporting a local "demand aggregator" or "community champion".

ii) A "supply-oriented" *infrastructure support model* aimed at providing incentives to stimulate the supply of broadband transport to a point of presence in an eligible community as well as the construction of distribution and access infrastructure within the community.

The various government sponsored broadband programs implemented to date generally follow one of these two recommended approaches.

The federal government currently has two programs in place that directly support the deployment of broadband facilities in rural, remote, northern and First Nation communities. The first program, which was launched in September 2002, is Industry Canada's *Broadband for Rural and Northern Development Pilot Program* (Broadband Pilot Program). One year later, in October 2003, a second program was jointly launched by Infrastructure Canada, Industry Canada and the Canadian Space Agency. This program is the *National Satellite Initiative (NSI).*

The Broadband Pilot Program is modeled on the community aggregator/champion funding model recommended by the NBTF. The Government of Canada committed $105 million to the Broadband Pilot Program which is scheduled to run for three-years (2003-2005).[71]

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[71] Details of the program are available at: http://broadband.gc.ca/.

Funding under the Pilot Program was available through a two-step process. In the first phase, eligible applicants submit proposals for "seed funding" to support the development of a business plan for their respective community or group of communities. In the second phase, funds are made available to successful applicants to implement their broadband service proposals.

Two application rounds were scheduled under the Broadband Pilot Program. The first was initiated in the fall of 2002 and the second round followed in the spring of 2003. Successful Round 1 and 2 applicants for Phase I seed funding under the program were announced in January and July of 2003, respectively. A total of $4.1 million was provided for this aspect of the program.

In October 2003, Phase II funding for the implementation of successful first round broadband proposals was announced. Successful applicants (i.e., involving 33 projects in total) received $44 million in funding from the Broadband Pilot Program to support the implementation of their broadband proposals. The successful applicants represented, in total, 433 rural, remote, northern and First Nations communities.[72]

Subsequently, in May 2004, Phase II funding for the implementation of successful second round broadband proposals was announced. Successful applicants (i.e., involving 25 projects in total) will receive $35 million in funding under the Broadband Pilot Program. The successful second round applicants represented 451 rural, remote, northern and First Nations communities in total.[73]

As a result of the two rounds of Pilot Program funding, roughly $80 million has been made available for broadband network and services deployment purposes. Moreover, it should be noted that the Pilot Program has, through partner contributions, more than matched the total amount invested by the federal government in the initiative.

Roughly 880 rural, remote and northern communities,[74] of which approximately 115 are First Nations reserves, have benefited from the Pilot Program.

No funding was provided in either Round 1 or 2 of the Pilot program for communities in the province of New Brunswick. An alternative province-wide broadband deployment initiative was announced in the fall of 2003 in New Brunswick. While this initiative is not funded through the Broadband Pilot Program, it is nevertheless supported in part by the federal government. This provincial initiative is discussed in the next section.

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[72] Industry Canada: Broadband Directorate.

[73] Industry Canada: Broadband Directorate.

[74] Broadband communities are based on conglomerations of dissemination areas as defined by Statistics Canada, with a naming convention based on postal codes.

The more recently introduced NSI program is based on the infrastructure support model recommended by the NBTF. The Government of Canada is contributing $155 million to this program, with $85 million of this total coming from the Canadian Strategic Infrastructure Fund (CSIF).[75] The Canadian Space Agency is contributing a further $50 million satellite capacity service credit to the NSI. This capacity will be made available on Telesat Canada's Anik F2 satellite beginning in the fall of 2004. In addition, Telesat Canada is making available additional satellite capacity on its Anik F3 satellite. The estimated value of the additional capacity, spread over the expected 15 years life of the satellite, is $20 million. Industry Canada's Broadband Office will deliver all three components of the NSI.

The NSI was created to complement other broadband initiatives and address the high cost of broadband access for communities in the mid to far north, and in isolated and remote areas of Canada, where satellite is the only reasonable means of providing broadband access. The NSI is being administered by Industry Canada's Broadband Office in conjunction with Infrastructure Canada, and delivered to eligible communities through partnerships with provincial and territorial governments. Satellite capacity or a funding contribution, as the case may be, will be made available for the deployment of broadband services via satellite to public institutions, such as schools and hospitals, as well as residences and businesses, in qualifying rural and remote communities.

In May 2004, the Government of Canada announced the results of the first round of applications under the NSI program.[76] In total, 52 remote communities in British Columbia, Manitoba, Ontario and Quebec will gain access to broadband services via satellite under the program, 41 of which are First Nations and Inuit communities. The total value of satellite capacity being provided under the first round of the NSI is approximately $20 million.

Ultimately, the goal of the NSI is to lower the cost of broadband access for roughly 400 communities in the mid to far north over the course of 2004 and 2005.

As noted in last year's Monitoring Report, there are a number of other federal government programs, most of which have been in place for several years, that contribute to the objective of ensuring that broadband access to the Internet is available in all Canadian communities. These include regional economic development funds as well as the CSIF, which in the latter case was used in part to fund the NSI. As well, there are a variety of *Connecting Canadians* initiatives such as the *Community Access Program* and *SchoolNet*, including *First Nations SchoolNet*. Funding from these types of programs can potentially be used to assist with the deployment of broadband Internet services, but doing so is not their primary objective. In addition, the federal government is also a partner in CANARIE, Canada's advanced Internet development organization established in 1993. CANARIE's mission is to accelerate the development of Canada's advanced Internet infrastructure and next-generation communications products, applications and services. While CANARIE's network does not generally extend into rural and remote areas of the country, the technologies developed for and applied in constructing its network are expected to generate spill-over benefits for the deployment of broadband facilities to such areas.

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[75] Government of Canada News Release, "Government of Canada launches National Satellite Initiative to provide broadband access to northern and remote communities", 5 October 2003.

[76] Industry Canada News Release, "Government of Canada Announces Broadband Access Via Satellite for 52 Remote Communities", 20 May 2004.

5.5 Provincial and Territorial Broadband Deployment Programs

Over the last several years or more, most provincial and territorial governments have implemented initiatives aimed at accelerating the deployment of broadband facilities throughout their respective territories. Like the existing federal broadband programs, these initiatives have generally followed one of the two approaches recommended by the NBTF.

Since last year's Monitoring Report was issued, several new broadband deployment programs or extensions of existing programs have been announced. Three such initiatives are found in New Brunswick, Saskatchewan and British Columbia.

First, the Province of New Brunswick announced in the fall of 2003 a project aimed at extending broadband network facilities and services to unserved areas of the province. Once the program is complete in 2006, approximately 90% of households, 95% of businesses and 100% of health care centres, business parks and First Nations communities in the province are expected to have broadband access.[77] This program builds on an earlier provincial initiative to extend broadband access to every school, library and college in New Brunswick.

In total, $44.6 million has been committed to this joint public/private initiative. The Province of New Brunswick has provided $12.5 million in funding, the Government of Canada has provided $16.5 million in funding (drawn from the CSIF) and, from the private sector, Aliant Telecom will invest $15.6 million in the project.

Second, the Province of Saskatchewan recently announced that it is extending its existing *Saskatchewan CommunityNet* initiative to provide broadband access to an additional 71 communities, including surrounding areas, in the province (over and above the 366 communities initially targeted under this initiative).[78] Once complete, more than 86% of the population of Saskatchewan is expected to have high-speed access to the Internet.

The cost of the new *CommunityNet II* initiative is estimated to be $34 million. The existing *CommunityNet* network, owned and operated by SaskTel and the Saskatchewan Communications Network, consists of fibre and satellite facilities. The *CommunityNet II* initiative will make use of a terrestrial wireless point to multipoint technology to serve rural and remote areas of the province.

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[77] Province of New Brunswick News Release, "Broadband access project to connect 90 per cent of New Brunswickers", 18 November 2003.

[78] Province of Saskatchewan News Release, "CommunityNet II Expands to 71 more Communities", 23 June 2004.

Third, the Province of British Columbia recently announced its intention to accelerate its current efforts to ensure the availability of broadband access throughout the province.

The Premier's Technology Council (PTC), established in 2001, is tasked with advising the Province of British Columbia on a range of technology-related matters, including means of accelerating the deployment of broadband access to all communities in the province. Following the PTC's recommendations to date, the Province has extended and opened its SPAN/BC network to provide remote and First Nations communities in British Columbia with high-speed access to the Internet.

In its most recent progress report,[79] the PTC announced the establishment of *NetWork BC*, an organization created for the purpose of ensuring that all communities in the province have broadband access within two years. The goal of the new organization is to provide broadband access to the 168 remaining unserved communities in British Columbia by the end of 2006. To achieve this goal, the Province plans to upgrade, extend and open up the SPAN/BC network and, under the direction of *NetWork BC*, find innovative ways to work with the private sector and take advantage of federal government broadband deployment programs, to provide broadband access in all communities in the province. In effect, the Province plans to extend the reach and capacity of its backbone provincial network and rely on local entrepreneurs to provide the "last mile" connectivity infrastructure within currently unserved communities.

No specific funding commitment has been made by the Province for the *NetWork BC* initiative. It should also be noted, however, that in addition to any funding that is allocated to this project, the Province has also provided matching grants for BC-based organizations applying for Broadband Pilot Program funding.

Virtually all of the broadband programs described in last year's Monitoring Report remain in progress. One exception is Ontario's *Connecting Ontario: Broadband Regional Access (COBRA)* program. Further funding for the COBRA program has been suspended while the provincial government conducts a review of its overall long term infrastructure support plans.

A summary of existing and the new above-noted initiatives is provided in Table 5.6.1. As indicated in the table, under existing broadband programs, provincial governments have committed over $550 million in funding (spread over three to seven year periods). The overall level of government funding is higher still when the Broadband Pilot Program and NSI programs, which together amount to $260 million, are taking into account. In addition, further public funding is indirectly available for broadband deployment initiatives through other sources such as government infrastructure funds (e.g., CSIF) and other regional development funds.

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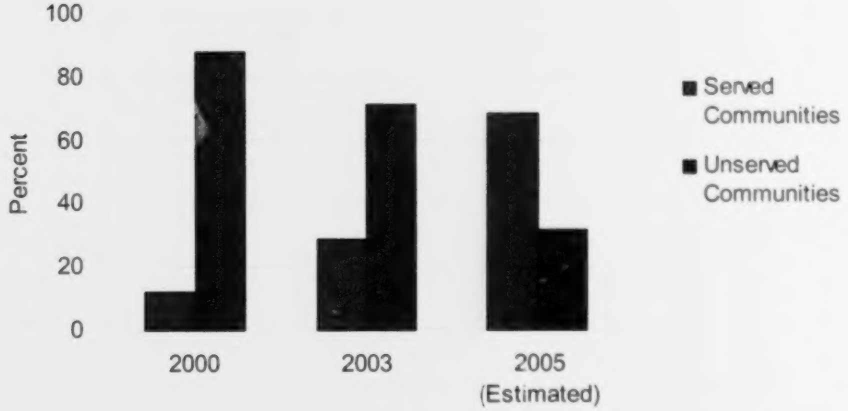
[79] Premier's Technology Report, 6th Report, 25 June 2004. See: http://www.gov.bc.ca/bcgov/content/docs/@2Ig53_0YQtuW/ptc_6threport_june_04.pdf.

5.6 Progress Under the Existing Initiatives

According to the Broadband Pilot Program National Selection Committee, which recently issued a status report on the program,[80] investments made through the Pilot program are expected to extend broadband access to approximately 880 rural, northern and First Nation communities by year-end 2005. Moreover, the Committee also estimates that complementary investments made through the NSI and CSIF as well as provincial and territorial broadband initiatives, including private sector participation, should extend broadband access to an additional 700 previously unserved communities by year-end 2005. In total, therefore, roughly 1,500 otherwise unserved communities will have broadband access by the end of 2005 as a result of these various initiatives.

Without these government broadband initiatives, the National Selection Committee estimates that some 3,250 of Canada's 5,500 total communities would have remained without broadband access as of year-end 2005, representing roughly 60% of all Canadian communities or 3 million Canadians (i.e., 10% of the population). However, as a result of the Broadband Pilot Program and other federal, provincial and territorial government broadband deployment initiatives, it is estimated that some 1,700 communities will remain unserved as of year-end 2005. Consequently, the existing government broadband programs have proved successful in significantly reducing the number of communities in Canada without broadband access to the Internet.

Figure 5.6.1
Communities with and without Broadband Access
Broadband Pilot Program



Source: Industry Canada

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[80] National Selection Committee Report, 31 March 2004.

5.7 Summary

Most Canadians have access to broadband service. Nationally, approximately 86% of Canadian households can have broadband service. However, although Canadians living in urban communities have very high availability rates for broadband service, the same cannot be said of those living in rural communities. This highlights the need for programs such as the Broadband for Rural and Northern Development Pilot Program administered by the federal government and various other provincial programs or initiatives such as the Saskatchewan *CommunityNet*. Nationally, over 95% of households in urban centres can have broadband service, but at most only 63% can have it in rural communities.

In all provinces/territories, except in the Atlantic provinces and the North, over 80% of all households can have access to broadband service. In the Atlantic provinces and the North, between 52% and 75% of households can have access to broadband service.

At the national level, of those who can have access to broadband service, 42% actually subscribe to the service. The potential introduction of various bundle packages that combine various service offerings such as Internet, video and local as well as the introduction of local service via VoIP would tend to increase Internet subscription rates.

Table 5.6.1
Summary of Provincial and Territorial Broadband Deployment Initiatives

Province / Territory	Program Name *(where applicable)*	Time Frame	Prov/Terr Funding ($M)	Description
Alberta	*SuperNet*	2001-2004	193	- Public/private initiative supporting the development of an open broadband network linking government facilities in 422 communities across the province
British Columbia	*NetWork BC*	2004-2006	Funding Estimate n/a	- Public/private initiative to extend and provide open access to the provincial government's SPAN/BC network infrastructure in 168 unserved communities in BC
Manitoba		2002-2007	47	- Upgrade and extension of the Province's provincial data network reaching an additional 85 communities (not intended to provide open access to private sector)
New Brunswick		2004-2006	13	- Public/private ($45 M) initiative to build out broadband access facilities to most communities across the province (ensuring broadband access for 90% of households)
Newfoundland & Labrador		2003-2004	5	- Public/private initiative focussed on educational institutions across the province (with support from CSIF)
Nova Scotia	*Information Economy Initiative*	2003-2005	1	- Public/private initiative focussed on educational institutions across the province
Ontario	*COBRA* *	2003-2005	55	- Funds construction of broadband infrastructure in rural and northern communities in Ontario, similar in form to the Broadband for Rural and Northern Development Pilot Program
Prince Edward Island				- Dependent on federal programs
Quebec	*Villages Branchés du Québec*	2003-2005	150	- Supports local/regional organizations aggregate demand and interconnect with provincial broadband backbone facilities
Saskatchewan	*CommunityNet I & II*	2001-2007	105	- Initiative to extend broadband facilities to most communities across the province (Phase I targeted 366 communities, Phase II an additional 71 communities)
Northwest Territories				- Dependent on federal programs
Nunavut				- Dependent on federal programs
Yukon				- *Connect Yukon* project completed in 2003, now dependent on federal programs**
TOTAL			**569**	

* Note that funding under Ontario's COBRA program has been suspended (as of August 2004) pending a review of Ontario's overall infrastructure funding program.

** e.g., Broadband Pilot Program, National Satellite Initiative, Canadian Strategic Infrastructure Fund

6.0 Users of Telecommunications Services

6.1 Introduction

This section provides information on retail service provided to the end users of telecommunications services, namely, residential consumers and business customers. In addition, it presents the results of a survey conducted by Decima Research Inc. (CRTC 2004 Decima Survey)[81] for the Commission in September 2004, to assess residential consumer behaviour, perceptions and awareness with respect to various telecommunications services. The survey measured household expenditures and choices in telecommunications services, wireless and Internet usage, and ascertained consumers' views on regulation and the benefits of competition.

In 2003, total expenditures on telecommunications services by residential and business customers were approximately $27.4 billion with $7.7 billion or 28.2% related to wireless services and $19.7 billion or 71.8% related to wireline services. Of the expenditures on wireline services, approximately $10.7 billion or 54.1% related to residential consumers and $9.0 billion or 45.9% to business customers.

6.2 Residential Consumers

Availability of Service

According to the most recent data available from Statistics Canada, in 2002, 98.7%[82] of Canadian households had wireline and/or wireless telephone service, up slightly from 98.5% in 1998.

To maintain high levels of telephone service and penetration rates in Canada, the ILECs were required to implement service improvement plans (SIPs).[83] These SIPs, filed with the Commission outlined how, over a four year period, the companies proposed to improve or upgrade telephone service, and to expand service in high-cost serving areas.

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[81] The Decima survey sample consisted of 2,035 households across Canada. This sample size provided an overall margin of error within ± 2.2%, 19 times out of 20.

[82] This is based on monitoring reports submitted by the ILECs pursuant to *Commission modifies reporting requirements for affordability*, Order CRTC 2000-393, 10 May 2000. The March 2004 report was filed with the Commission 6 April 2004 and included penetration rates for 2002 based on Statistics Canada surveys.

[83] Pursuant to *Telephone service to high-cost serving areas*, Telecom Decision CRTC 99-16, 19 October 1999.

In 2002 and 2003, the Commission reviewed and approved SIPs from the large and small ILECs that identified 26,620 unserved and 38,995 underserved[84] premises in 3,218 communities. As displayed in Table 6.2.1, as a result of the SIPs, by year end 2003, 5,402 or 25% of the unserved premises had service and another 20,961 or 54% of the underserved premises in 865 communities had improved service that met the Commission's basic service objective established in Decision 99-16.

Table 6.2.1
Service Improvement Program

	2002	2003	*Change (2002-2003)*
Unserved Premises	19,680	26,620	35.3%
Underserved Premises	34,700	38,995	12.4%
Total number of SIP Communities	1,626	3,218	97.9%
Previously Unserved (Service provided by SIPs)	742	5,402	628.0%
Previously Underserved (now with basic service)	14,219	20,961	47.4%
Number of Communities with service provided or improved to basic service under SIPs	221	865	291.4%
Percent of unserved premises now with service under SIPs	3.8%	20.3%	
Percent of underserved premises improved to basic service under SIPs	41.0%	53.8%	

Source: ILECs' approved SIP filings
Note: In 2003, the ILECs identified additional unserved and underserved premises that met the conditions of the SIP.

Pricing

In Figure 6.2.1, a price index reflecting the price changes experienced by a household for a basket of telephone services is compared to the consumer price index (CPI) for the period 1998 to 2003. The telephone service price changes reflect a weighted average of consumer expenditures on basic local service, other local services (such as options and features), long distance, installation and repair charges. They do not, however, include wireless or Internet service expenditures.[85]

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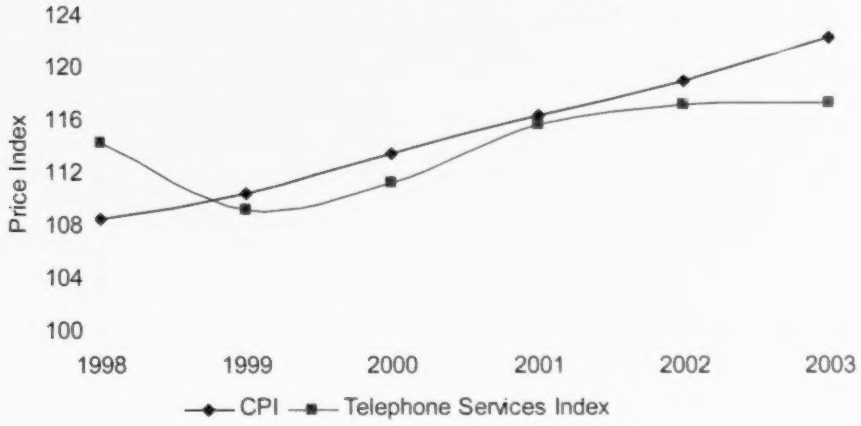
[84] In Decision 99-16, underserved households were those with telephone service that did not meet the "basic service objective". The basic service objective was defined as local telephone service consisting of: (a) an individual local line with touch tone dialling; (b) the capability of dial up Internet access service without incurring long distance charges; (c) enhanced calling features, access to emergency services, Voice Message Relay service, and privacy protection features; (d) access to operator and directory assistance services; (e) access to the long distance network; and (f) a copy of a current local telephone directory.

[85] Statistics Canada Catalogue No. 60-010XPB 1995-98; 62-001XPB 1999-2001; 62-001, 2003.

Figure 6.2.1
Telephone Services Price Changes as Compared to Inflation



Source: Statistics Canada

Prior to 1998, the Commission approved[86] price increases for local service to better reflect the cost of providing this service which caused the index to be above the CPI. However, since 1999, the index was consistently below the CPI predominantly because of the decline in long distance service prices.

During the 1999-2001 period, the rates for basic local service to residential consumers increased in most urban and rural areas, consistent with the regime established by the Commission's 1997 price cap decision[87] which applied to the large ILECs (except for SaskTel). During this period, the Commission imposed an overall price cap constraint on ILECs' services that was tied to the rate of inflation less a productivity factor of 4.5%.

In 2002, the price cap regime was continued for another four years with various changes to the service baskets and to the pricing constraints applicable to residential and optional local services.[88] Residential consumers, on average, would not see a rate increase for basic local services unless inflation exceeded 3.5%. In 2003, the ILECs did not increase basic residential local rates.

Expenditure on Telephone Services

From 1996 to 2001, shifts in the pricing of telephone services took place in conjunction with growing competition in the long distance market. In 1996, long distance and local services represented 54% and 38%, respectively, of a household's average telephone expenditures, while in 2001, these proportions were essentially reversed.[89]

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[86] *Review of regulatory framework*, Telecom Decision CRTC 94-19, 16 September 1994.

[87] *Price Cap Regulation and related issues*, Telecom Decision CRTC 97-9, 1 May 1997.

[88] Pursuant to *Regulatory framework for second price cap period*, Telecom Decision CRTC 2002-34, 30 May 2002.

Residential consumer spending on optional local services (including calling features such as voice mail, call display and call waiting) has increased in recent years. In 1998, calling features generated approximately 20% of residential local voice services expenditures. In 2003, this proportion increased to 25%.[90] Since 2001, residential consumers have been spending less than 1.5% of their annual household expenditures[91] on traditional[92] telephone services.

Based on the CRTC 2004 Decima Survey, when asked about their telecommunications expenditures, 19% of Canadian households indicated that they spent less than $50 per month in total on telecommunications services.[93] These services consisted of local and long distance wireline services, wireless and Internet access services. The proportion of household telecommunications spending at various levels is displayed in Table 6.2.2.

Table 6.2.2
Monthly Household Telecommunications Expenditures

	Less than $50	$50-$75	$75-$99	Over $99	Don't Know/ Refused to Answer
Percent of Households	19%	24%	17%	35%	4%

Source: CRTC 2004 Decima Survey
Base: All households

The percentage of households within each of the spending categories in Table 6.2.2 did not differ markedly between larger and smaller communities.[94] In addition, 65% of survey respondents stated that compared to a year ago, their total monthly spending on all of these services stayed the same or decreased.

As shown in Table 6.2.2, 52% of Canadian households spent $75 per month or more on telecommunications services. This would suggest that a large proportion of Canadian households have multiple means of meeting their communication needs.

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[89] Statistics Canada 62-555-XPB, Family Expenditure in Canada, 1996; Statistics Canada 56-002-XIE, Quarterly Telecommunications Statistics, 4th quarter 2001.

[90] Source: CRTC Data Collection.

[91] Based on Statistics Canada – *Average household expenditures by provinces and territories* CANSIM Table 203-0001, and *Household Spending on Communications, Canada, 1997-2002*, Table 203-0004, Survey of Household Spending 3508.

[92] Traditional telephone service excludes wireless and Internet services.

[93] CRTC 2004 Decima Survey Q.2.

[94] The results were sorted by census metropolitan area (CMA) and non CMA. CMA refers to an urbanized core having at least 100,000 inhabitants, according to Statistics Canada.

The Connected Consumer

Although the number of fixed wireline residential subscriptions decreased since 2001 as discussed in section 4.3 of this report, the use of other communication methods, such as wireless and Internet service, increased. As noted in section 4.5, wireless subscriptions, both residential and business, surpassed 13 million in 2003. In the CRTC 2004 Decima Survey, 67% of Canadian households stated they had at least one subscription to wireless service,[95] as shown in Table 6.2.3.

Table 6.2.3
Wireless Subscriptions

Households with:	No wireless subscriptions	One wireless subscription	Two wireless subscriptions	Three or more wireless subscriptions
Percent of Households	33%	38%	20%	9%

Source: CRTC 2004 Decima Survey
Base: All households

With respect to Internet access, approximately 86% of Canadian households can subscribe to high speed Internet service.[96] In 2003, approximately 4.5 million or 36% of households actually subscribed to high speed service, and 2.5 million or 20% subscribed to a dial up service, resulting in over 7 million connected households or 56% of all Canadian households.[97]

Residential consumers have a range of alternative providers for long distance services, Internet access, and wireless telephony. With respect to residential local services, the availability of more than one provider is limited to certain centres in Canada, with a small number of companies offering basic local telephone service along with optional features, long distance, wireless and Internet services. For example, Call-Net, through its wholly owned subsidiary, Sprint Canada (Sprint), offers the above combination (in partnership with Microcell) to residential consumers and business customers. In 2002, Sprint provided local service to over 140,000 residential consumers, and in 2003, had more than 200,000 local residential subscriptions and 60,000 local business lines.[98] In Ontario, FCI Broadband offers extended basic local services, long distance and Internet services to select neighbourhoods in Toronto, Richmond Hill, and adjoining communities. In the Atlantic provinces, EastLink offers service bundles of local, long distance and Internet services to homes within the company's cable system network footprint in the Halifax-Dartmouth region and in PEI.

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[95] CRTC 2004 Decima Survey Q.3.

[96] As discussed in Section 5 – Broadband Availability and Promising Means for Accelerated Broadband Deployment.

[97] CRTC Data Collection.

[98] Call-Net news release 29 April 2004.

In regard to the provision of local telephone service to residential customers, the Commission has been removing barriers to competition and providing Canadians with flexibility and ease in selecting services and service providers. For example, local number portability (LNP) was implemented[99] to enable subscribers to switch wireline local service providers without having to change telephone numbers. In Decision 2003-45,[100] the Commission stated that all local telephone companies that want to provide service to multi dwelling units, such as apartments and condominiums, should have access to them under reasonable terms and conditions which would, in turn, give consumers choice of their local service provider.

Over the past year, a few service providers have introduced local and long distance services, utilizing the Internet protocol over a high speed Internet connection, as an alternative to traditional circuit switched technology.

Quality of Service

The quality of retail service to residential consumers and business customers has been of concern to the Commission during the course of changes in the regulatory regime including, most recently, changes in the competitive landscape. Quality of Service standards were established in 1982.[101] However, because of limited competition in the local service market, competitive pressure alone would not be enough to ensure that ILECs would meet these standards. In 2002, the Commission implemented, on an interim basis, a plan in the form of payments or rebates to customers when a company delivers sub-standard quality of service.[102] In 2003, the Commission invited comments on a retail quality of service final rate adjustment plan for residential and business customers and on an appropriate audit process to ensure that the ILECs file performance reports consistently and accurately.[103]

Wireless Communications

The wireless industry is competitive and has enjoyed significant increases in subscribership over the past five years. The industry has developed a variety of rate plans for voice and text messaging services to meet consumer needs. As displayed in Table 6.2.3, it is not unusual for a household to have multiple subscriptions.

Currently there is no number portability in wireless service as in local wireline service. However, as a wireless provider operating as a CLEC, Microcell offers to its customers the option of transferring their landline telephone number to their wireless phone.

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[99] *Local competition*, Telecom Decision CRTC 97-8, 1 May 1997.

[100] *Provision of telecommunications services to customers in multi-dwelling units*, Telecom Decision CRTC 2003-45, 30 June 2003.

[101] Most recently, the Commission issued *Final standards for quality of service indicators for use in telephone company regulation and other related matters*, Decision CRTC 2000-24, 20 January 2000. The Commission also issued *Quality of service indicators for use in telephone company regulation*, Telecom Decision CRTC 97-16, 24 July 1997.

[102] *Regulatory framework for second price cap period*, Telecom Decision CRTC 2002-34, 30 May 2002.

[103] *Retail quality of service rate adjustment plan and related issues*, Telecom Public Notice CRTC 2003-3, 27 March 2003.

In the CRTC 2004 Decima survey,[104] consumers were asked to indicate their level of interest in being able to retain their wireless telephone number when changing from one wireless service provider to another. Of the 67% of households in Table 6.2.3 that had at least one wireless subscription,[105] 65% of these households stated that it was important that they keep their existing wireless telephone number if they were to change suppliers. The importance of keeping the telephone number when changing suppliers increased with the number of wireless subscriptions a household had, as displayed in Table 6.2.4.

Table 6.2.4
Importance of Keeping Existing Wireless Telephone Number When Changing Suppliers

Households with :	One wireless subscription	Two wireless subscriptions	Three or more wireless subscriptions	All households with at least one wireless subscription
Important	61%	70%	74%	65%
Not Important	36%	28%	24%	32%
Don't know/Did not answer	4%	1%	2%	3%

Source: CRTC 2004 Decima Survey
Base: Households with at least one wireless subscription

All households were asked to compare wireless service to wireline service and if they would consider replacing their wireline with wireless service.[106] As displayed in Table 6.2.5, 48% of all households rated wireless service as good as, or better than wireline service. In households with at least one wireless subscription, 54% rated wireless service as good as or better than wireline service.

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[104] CRTC 2004 Decima Survey Q.3a.

[105] In the Survey, there were 1,346 households with at least one wireless subscription. This sample provides an overall margin of error within ± 3%, 19 times out of 20.

[106] CRTC 2004 Decima Survey, Q.4, Q.5.

Table 6.2.5
Comparison of Wireline and Wireless Service

Compare wireless service to wireline service – which is better?						
Number of Wireless Phones in Household:	No wireless subscriptions	Households with wireless subscriptions				All households
		One or more	One only	Two only	Three or more	
Wireless is better	9%	11%	10%	10%	18%	10%
Wireless is as good	29%	43%	43%	45%	37%	38%
Wireless is not as good	29%	40%	38%	43%	44%	36%
Did not know/Did not answer	34%	6%	9%	3%	1%	15%
Consider replacing wireline service for exclusive use of wireless service						
Number of Wireless Phones in Household:	No wireless subscriptions	Households with wireless subscriptions				All households
		One or more	One only	Two only	Three or more	
Yes would consider replacing	12%	17%	15%	17%	28%	15%
No would not consider replacing	84%	80%	83%	80%	69%	82%
Don't have traditional phone service, don't know or did not answer	4%	3%	2%	3%	3%	3%

Source: CRTC 2004 Decima Survey
Base: All households

With respect to replacing their traditional wireline telephone service with wireless service,[107] 82% of all respondents stated they would not consider doing so, and for those with at least one wireless subscription in the household, 80% stated they would not consider replacing their wireline service with wireless service. It should be noted that in a similar survey conducted by the Commission in 2002, 87% of all households stated they would not consider replacing their traditional wireline telephone service with wireless service.[108]

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[107] CRTC 2004 Decima Survey, Q.5.

[108] CRTC Monitoring Report 2002 page 95 (Ipsos Reid Q.11) stated that 13% of all respondents (with and without a wireless subscription) said they would consider wireless telephone service as a replacement for their wireline. Base = 1,000 surveyed, margin of error ± 3.1%.

All households, with and without wireless subscriptions, who answered yes to replacing their wireline service with wireless service (15%), were asked to pick among a list, the two most important factors to consider if they were to make such a move.[109] The factors most often cited were (a) the cost of wireless service followed by (b) quality/reliability, and (c) keeping the same telephone number.

Access to the Internet

Internet service providers offer a range of Internet services that include dial-up, DSL cable modem, high speed Lite, and wireless access services with a variety of customer plans ranging from hourly charges to a flat monthly fee for a certain number of hours or unlimited access. In 2003, Statistics Canada identified 256 ISP firms providing Internet services.[110] In that year, about 7 million of 12.3 million Canadian households regularly accessed the Internet from home, a gain of 7% over the previous year.

In 1998, the Commission required cable companies to open their networks to ISPs,[111] and in 2003,[112] ruled on wholesale prices charged by the cable companies to ISPs. As stated in section 5 of this report, broadband service in 2003 was available to 95% of households in urban centres and 63% of households in rural areas.

Pricing for high-speed Internet service has reached the point where it is comparable to low-speed service for users requiring a lot of connect time.[113] Generally, dial-up low-speed service continues to be provided from approximately $10/month, depending on the plan, with an additional charge for excess connect time, and high speed service is priced from approximately $35/month.

In Decision 2003-49,[114] the Commission mandated that high-speed DSL access service should be provided by Aliant Telecom, Bell Canada, MTS, SaskTel and TELUS to residential customers who subscribe to local wireline services of a CLEC provided via an ILEC's local loops. This means that consumers who switch their local wireline service from an incumbent to a CLEC need not give up their subscription to an ILEC's high speed service.

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[109] CRTC 2004 Decima Survey Q.5a.

[110] Statistics Canada: "Struggling to remain competitive: a study of factors impeding growth for Canadian Internet service providers", page 2; Heather Archibald; Catalog 63F0002 XIE No. 44, July 2003.

[111] *Regulation under the Telecommunications Act of certain telecommunications services offered by "broadcast carriers"* Telecom Decision CRTC 98-9, 9 July 1998. See also *Application concerning access by Internet service providers to incumbent cable carriers' telecommunications facilities*, Telecom Decision CRTC 99-11, 14 September 1999.

[112] *IMCAIP's request for mandatory resale of retail Lite Internet service*, Telecom Decision CRTC 2003-47, 14 July 2003.

[113] Merrill-Lynch Broadband Handbook, 21 February 2003, page 17.

[114] *Call-Net Enterprises Inc. – Request to lift restrictions on the provision of retail digital subscriber line Internet services*, Telecom Decision CRTC 2003-49, 21 July 2003.

Long Distance Service

In 2000, residential consumers paid $3.1 billion for long distance wireline service. In 2003 this was marginally lower, at $3.0 billion. As discussed in section 4, long distance residential minutes have also marginally declined to 22.2 billion minutes from 22.8 billion in 2000. However, in 2003, increases in competitor minutes contributed to an increase in total minutes over 2002. Lower rates and aggressive competition among long distance service providers continued in 2003.

Pricing alternatives in long distance calling continue to be offered in various forms including a per minute charge, a flat charge for a fixed number of minutes, or unlimited calling for a flat monthly fee. With vigorous competition, the price per long distance minute has fallen considerably, and this has prompted many long distance service providers to introduce a fixed monthly "network" or subscription fee to their long distance plans. In 2002, the network fees added approximately $133 million to residential long distance expenditures and in 2003, amounted to $285 million, due mainly to an increase in the fees themselves.[115]

Consumer Awareness

In a competitive market, consumers have the responsibility of making informed decisions regarding both the telecommunications services they use and the suppliers of these services. Consumers' responsibilities include assessing the features, prices, benefits and quality of the services offered, and the customer support that goes with them.

With respect to maintaining awareness of various competitive offerings, in 2004, the Commission granted Call-Net's request for an education program to inform the public of the availability of competition in local residential services. The Commission noted that its own web site would be a practical way of providing information on how local competition works, including number portability, 911 access from CLECs, and how to switch local service providers. In addition, the Commission directed the ILECs to include a reference to the Commission's local competition web site in their customer bills and provide a direct link to that site from the ILECs' web sites.[116]

In the CRTC 2004 Decima survey, consumers were asked how easy it was to compare the prices and features offered by companies in local and long distance wireline services, wireless and Internet access services.[117] This question was also asked in the 2003 survey.[118] The results for both surveys are shown in Table 6.2.6.

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[115] Source: CRTC Data Collection.

[116] *Call-Net Part VII Application – Promotion of local residential competition*, Telecom Decision CRTC 2004-4, 27 January 2004.

[117] CRTC 2004 Decima Survey, Q.7.

[118] Ipsos Reid Survey, 2003, Q.4 based on 1,055 respondents.

Table 6.2.6
Consumers' Ability to Compare Service Offerings

	Local Service		Long Distance Service		Cellular Service		Internet Service	
	2003	2004	2003	2004	2003	2004	2003	2004
Easy to compare	58%	61%	68%	54%	55%	47%	65%	55%
Not easy to compare	36%	30%	30%	39%	33%	36%	33%	25%
Don't know/Did not answer or service does not apply	6%	9%	3%	7%	12%	16%	12%	20%

Source: CRTC 2004 Decima Survey and CRTC 2003 Ipsos Reid Survey
Base: All households

Respondents were asked if they had ever subscribed to a company other than their traditional telephone company for long distance.[119] Forty-one percent (41%) stated they had subscribed to an alternate service provider.

Overall, 67% of respondents stated they had benefited from the availability of competition in telecommunications services.

Regulatory Developments Affecting Consumer Services

In 2003 and 2004, the Commission implemented certain regulatory measures to ensure that basic telephone service by the ILECs continues to meet the changing needs of consumers.

In light of the benefits of itemized billing, in Decision 2003-86,[120] the Commission directed Bell Canada and Aliant Telecom to provide all customers with monthly itemized billing statements.

In Decision 2004-31[121] the Commission ruled that the ILECs were not permitted to suspend or disconnect a customer's tariff services if that customer has made partial payments sufficient to cover the cost of that customer's outstanding arrears for the tariff services.

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[119] CRTC 2004 Decima Survey Q.10.

[120] *Bell Canada and Aliant Telecom Inc. – Show Cause on the issuance of monthly itemized billing statements – Follow-up to Decision 2002 34*, Telecom Decision CRTC 2003-86, 23 December 2003.

[121] *Terms of Service Disconnection for partial payment of charges*, Telecom Decision CRTC 2004-31, 11 May 2004.

With respect to the declining number of pay telephones, particularly in small or rural communities, the Commission concluded that pay telephone service is still an important public service that wireless services have not rendered obsolete. In Decision 2004-47,[122] the Commission established a notification process to be used by the ILECs when the last pay telephone in a community is scheduled for removal. Also, the Commission directed the ILECs to implement a teletypewriter upgrade program for certain pay telephones, to provide access to pay telephones by deaf consumers.

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[122] *Access to pay telephone service*, Telecom Decision CRTC 2004-47, 15 July 2004.

6.3 Business Customers

In 2003, roughly 95% of business wireline accounts were small business. However, the revenues generated by these accounts represented less than 18% of total business wireline revenues. Table 6.3.1 summarizes the 2003 distribution of small, medium, large and very large business accounts and revenues for incumbents and competitors.[123]

Table 6.3.1
Business Accounts and Revenues Distribution (2003)

	Number of Business Accounts				Business Revenues			
	Small	Medium	Large	Very Large	Small	Medium	Large	Very Large
Incumbents	88.9%	8.9%	1.8%	0.4%	18.1%	12.0%	14.6%	55.3%
Competitors	98.7%	1.0%	0.3%	0.1%	13.9%	14.3%	20.5%	51.3%
Industry	94.7%	4.2%	0.9%	0.2%	17.2%	12.5%	15.8%	54.5%

Source: CRTC Data Collection

During the 1998 to 2003 period, the number of large and very large business accounts combined as a percent of total business accounts remained relatively constant at roughly 1% to 2%.[124] However, as a percent of total business revenues, the combined revenues from large and very large business customers remained relatively constant, at approximately 70%.[125] In 2003, the number of large business accounts was approximately five times the number of very large accounts. However, in terms of revenues, the situation was almost reversed. The very large business revenues were approximately three times the large business revenues.

Figure 6.3.1 compares the total incumbent and competitor local, long distance, and data and private line revenues for the small, medium, large and very large business market segments. Incumbents have the lion's share of this group of services in each of the market segments, with approximately 75% of each of the medium and large business market segment revenues and approximately 80% of each of the small and very large business market segment revenues.

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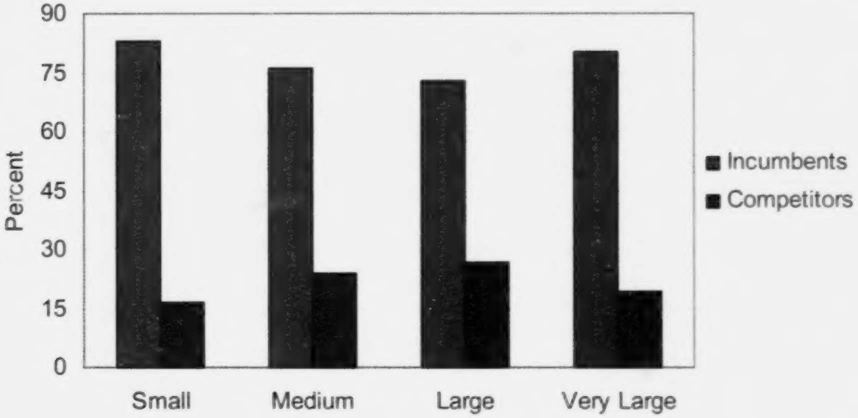
[123] For the purposes of this report, wireline business customers were segmented into small, medium, large and very large customers. A small business customer is defined as a business account that generated less than $6,000 in annual telecommunications revenues. A medium business customer is defined as a business account that generated annual revenues of at least $6,000 but less than $30,000. A large business customer is defined as a business account that generated annual revenues of at least $30,000 but less than $240,000. A very large business account is defined as a business account that generated annual revenues of at least $240,000.

[124] Source: CRTC Data Collection.

[125] Source: CRTC Data Collection.

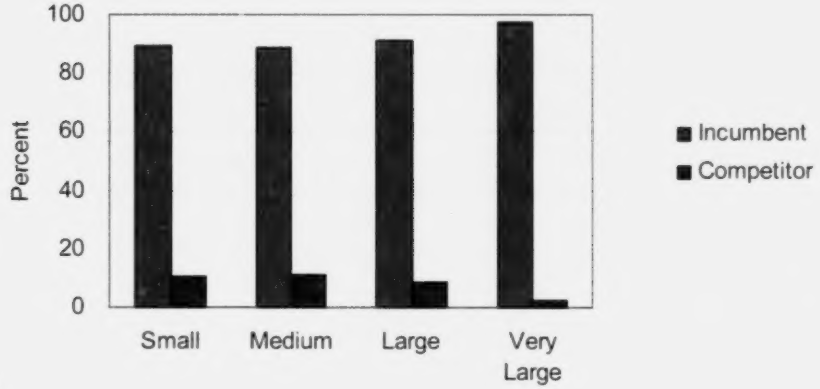
Figure 6.3.1
Total Local, Long Distance and Data and Private Line Revenues Incumbents v. Competitors (2003)



Source: CRTC Data Collection

Figure 6.3.2 compares the local service revenues of incumbents and competitors from the small, medium, large and very large business market segments. The incumbents are the dominant suppliers of local service to all the business customers. Competitors captured approximately 10% of the small, medium and large business expenditures on local service and a negligible amount of the very large business expenditures on local service.

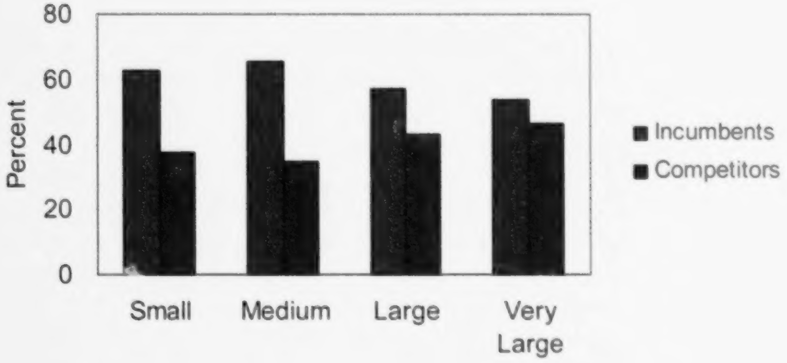
Figure 6.3.2
Local Business Revenues – Incumbents v. Competitors (2003)



Source: CRTC Data Collection

The long distance small and medium business market, as displayed in Figure 6.3.3, was roughly 35% supplied by competitors while the large and very large business market was approximately 42% supplied by competitors.

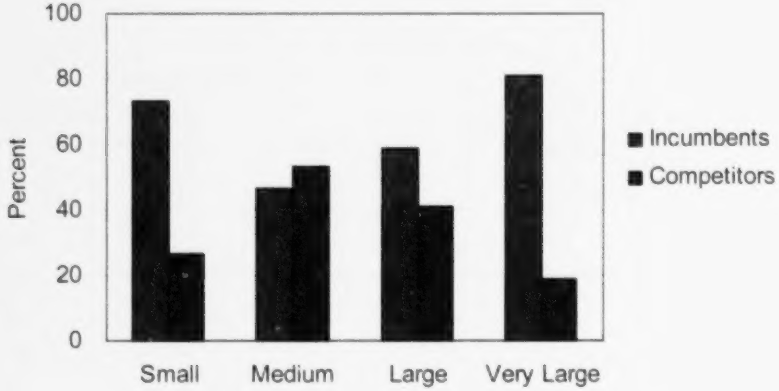
Figure 6.3.3
Long Distance Business Revenues
Incumbents v. Competitors (2003)



Source: CRTC Data Collection

With respect to data and private line services, competitors had approximately 40% to 50% of the medium and large business market. Incumbents, however, maintained roughly 75% of the small business market and approximately 80% of the very large business segments.

Figure 6.3.4
Data and Private Line Revenues
Incumbents v. Competitors (2003)



Source: CRTC Data Collection

Summary of Canadian Telecommunications Milestones to Competition

Market	Year	Details
Data and Private Line	1979	Allowed the interconnection of private line data circuits between CNCP Telecommunications and Bell Canada.
Terminal Equipment	1982	Allowed customers to purchase their own terminal equipment (e.g., telephone sets).
Wireless	1984	A duopoly market structure was initially created in 1984; two additional national mobile wireless licences were issued by Industry Canada in 1995. The terms and conditions for wireless service providers to interconnect to the incumbent telephone companies' networks were initially established in 1984.
Long Distance (resale)	1987	Long distance resale was first allowed in 1987, with the rules being liberalized in 1990. Resale of international long distance service was permitted in 1991.
Long Distance (facilities-based)	1992	Facilities-based competition was permitted in 1992, but full competition did not begin until 1994 when the incumbents were required to modify their networks to allow customers to make long distance calls without dialling extra digits (equal ease of access). Facilities-based competition in the provision of international services was permitted in 1998.
Local	1997	Framework for facilities-based competition in the local services market was established for most large incumbents in 1997. In the following year, large incumbents were required to begin to modify their networks to allow customers to switch service providers without changing telephone numbers (i.e., implement local number portability).
Pay Telephone	1998	Incumbents were required to put in place access tariffs and service agreements for new entrants.

Summary of Canadian Telecommunications Markets Subject to CRTC Forbearance Rulings

Market	**Year**	**Details**
Terminal Equipment	1994	Sales and rental of terminal equipment.
Wireless	1994	Cellular, personal communications services, mobile radio and paging, except in the case of incumbent in-house mobile service providers. Forbearance extended to incumbent mobile operations, starting in 1998, once competitive safeguards had been implemented.
Satellite Services	1994	Telesat's digital video compression services initially; further services offered by Telesat, such as sale/lease of earth stations and RF channels, in subsequent years.
Services Provided by Non-dominant Carriers	1995	Services, such as long distance, data, Internet and private line, provided by non-dominant competitive carriers.
Data and Private Line	1997	High-speed/DDS inter-exchange private line services provided by the incumbent telephone companies on a route-specific basis.
Internet Services	1997	Incumbent telephone companies' retail Internet services in 1997 and those of cable providers in 1998.
Long Distance	1998	Toll and toll-free services.
International Services	1998	Initially excluded Teleglobe; however, certain international services provided by Teleglobe later forborne as well.

Summary of Certain Recent CRTC Rulings Relevant to Telecommunications Competition

Ruling	**Details**
Part VII Application – Access to supporting structures of municipal power utilities – CCTA vs MEA et al. – Final Decision, Telecom Decision CRTC 99-13, 28 September 1999.	The Commission determined the terms and conditions for access by cable companies to the support structures of certain utility companies. The Supreme Court of Canada ruled in May 2003 that federal regulators have no authority under current legislation to allow cable operators to string their lines along power poles owned by municipal and provincial utilities.
Ledcor/Vancouver – Construction, operation and maintenance of transmission lines in Vancouver, Decision CRTC 2001-23, 25 January 2001.	The Commission determined the terms and conditions for access by Ledcor Industries and its affiliates to municipal rights-of-way in Vancouver. The appeal to the Federal Court of Appeal was dismissed and Leave to Appeal to the Supreme Court of Canada was dismissed in September 2003.
Application of the winback rules with respect to primary exchange service, Telecom Decision CRTC 2002-1, 10 January 2002.	The Commission amended the local winback rules by directing incumbent local exchange carriers not to attempt to win back a business customer with respect to primary exchange service, and, in the case of a residential customer, with respect to primary exchange or any other service, for a period of three months after that customer's primary local exchange service has been completely transferred to another local service provider.
Regulatory framework for second price cap period, Telecom Decision CRTC 2002-34, 30 May 2002.	The price cap decision provided new rules to determine the rates charged for local telephone services of TELUS, SaskTel, MTS, Bell Canada and Aliant Telecom. It also provided for an adjusted quality of service mechanism and a requirement for the incumbents to provide Competitor Digital Network Access (CDNA) on the same basis as other competitor services (i.e., priced at cost plus a 15% mark-up). This decision lowered certain ILEC wholesale rates to competitors.
Implementation of price regulation for Télébec and TELUS Québec, Telecom Decision CRTC 2002-43, 31 July 2002.	The Commission determined the terms and conditions for a price cap regime applicable to Télébec and TELUS Québec for a four-year period, beginning in 2002. The Commission adopted a regime that was similar, in most respects, to the regime implemented for the large ILECs in Telecom Decision CRTC 2002-34.

Ruling	**Details**
Framework for the expansion of local calling areas, Telecom Decision CRTC 2002-56, 12 September 2002 and *Applications for stay and review and vary of Telecom Decision CRTC 2002-56 and Telecom Decision CRTC 2003 27*,Telecom Decision CRTC 2004-56, 26 August 2004.	The Commission provided a new framework for the expansion of local calling areas. Customers in these expanded local calling areas will be subject to a surcharge for a limited period of time to compensate toll carriers for toll revenues foregone. In Decision 2004-56, the Commission determined that single-hop resellers will be entitled to compensation for foregone revenues for their services that compete with toll services.
GT Group Telecom Services Corp. v. Bell Canada – Non-compliance with Bundling Rules, Telecom Decision CRTC 2002-58, 20 September 2002.	The Commission found that a Bell Canada promotion offering business customers a rebate of long distance charges contingent on the customer obtaining local exchange service from Bell Canada is a bundled service that requires tariff approval. The Commission directed that such bundled services provided without an approved tariff should cease to be offered, and that all ILECs file information with the Commission related to similar services.
Interim rates for Access Tandem service and Direct Connection service, Telecom Orders CRTC 2002-384, 24 September 2002, and 2002-384-1, 30 September 2002, and *Revised interim rates for Access Tandem service*, Telecom Order CRTC 2002-412, 31 October 2002.	Direct connection (DC) and access tandem (AT) per-minute rates were reduced on an interim basis, effective 1 June 2002, for TELUS, SaskTel, MTS, Bell Canada and Aliant Telecom. Some AT rates were reduced by as much as 70%.
Call-Net Enterprises Inc. v. Bell Canada – Compliance with winback rules, Telecom Decision CRTC 2002-73, 4 December 2002.	The Commission found Bell Canada to be in violation of the Commission's winback rules, and directed it to cease and desist from violating winback rules, develop internal procedures to ensure compliance and report back to the Commission within 60 days on the internal procedures.
Regulatory safeguards with respect to incumbent affiliates, bundling by Bell Canada and related matters, Telecom Decision CRTC 2002-76, 12 December 2002.	The Commission considered that certain single source and packaged arrangements of Bell Canada and Bell Nexxia that involved Bell Canada tariffed service elements constitute bundling, requiring Bell Canada to file tariffs for approval in respect of these arrangements. The Commission also tightened the rules under which an ILEC may provide tariffed services to an affiliate. The rates, terms and conditions of these tariffed services provided to an affiliate must be identical to those that would apply if the telecommunications services in question were provided to the public by the ILEC, instead of the affiliate.

Ruling	**Details**
Review of promotions, Telecom Public Notice CRTC 2003-1-1, 13 March 2003.	The Commission suspended consideration of applications for ILEC promotions in the local wireline market pending its examination of the rules regarding promotions by incumbents.
GT Group Telecom Services Corp. v. Aliant Telecom Inc. – Tariff violations and contraventions of the Telecommunications Act, Telecom Decision CRTC 2003-23, 10 April 2003.	The Commission found that Aliant Telecom contravened subsections 25(1) and 27(1) and (2) of the *Telecommunications Act*. The Commission took measures to address Aliant Telecom's behaviour with a view to ensuring compliance with its tariffs and the Act.
Measures with respect to incumbent telephone company regulatory compliance, Telecom Public Notice CRTC 2003-4, 10 April 2003.	The Commission announced measures to ensure full compliance by incumbent telephone companies with the *Telecommunications Act* and Commission decisions, including the designation of inspectors under section 71 of the Act.
Provision of telecommunications services to customers in multi-dwelling units, Telecom Decision CRTC 2003-45, 30 June 2003.	The Commission established the conditions and principles for the provision of telecommunications services to customers located in multi-dwelling units (MDUs) including guidelines that assist building owners and local exchange carriers in negotiating just and expedient conditions to access MDUs. Appeal to the Federal Court of Appeal was dismissed in June 2004.
Call-Net Enterprises Inc. – Request to lift restrictions on the provision of retail digital subscriber line Internet services, Telecom Decision CRTC 2003-49, 21 July 2003.	The Commission directed the ILECs (except MTS) to, upon request, provide their respective retail digital subscriber line Internet services to any residential CLEC primary exchange service customer, who is served by a local loop leased from the ILECs and would otherwise qualify for those services. The Commission also directed MTS to show cause as to why this decision should not also apply to it.
Conditions of service for wireless competitive local exchange carriers and for emergency services offered by wireless service providers, Telecom Decision CRTC 2003-53, 12 August 2003.	The Commission established conditions under which wireless carriers could offer service as wireless CLECs, and introduced public safety obligations and liability limitations for all wireless carriers.

Ruling	**Details**
Review of Bell Canada's customer-specific arrangements filed pursuant to Telecom Decision 2002-76, Telecom Decision CRTC 2003-63, 23 September 2003.	The Commission found that the tariffs accompanying the customer-specific arrangements (CSAs) filed by Bell Canada pursuant to the Commission's direction in Telecom Decision CRTC 2002-76 did not meet the Commission's requirement in regard to the rates, terms and conditions that should be publicly available in the tariffs. The Commission set out the criteria in regard to the level of detail that Bell Canada must provide in tariffs accompanying CSAs. In addition, the Commission found that Bell Canada understated the Phase II cost components of the imputation tests filed in support of the CSAs, and directed the company to file proposed tariffs establishing rates that would assure the recovery of revenues set out in the decision, or notify the Commission that it has discontinued the provision of the service in question. Appeal to the Federal Court of Appeal argued in September 2004.
Finalization of interim competition-related Quality of Service indicators and standards Telecom Decision CRTC 2003-72, 30 October 2003.	The Commission resolved several issues regarding the definition and implementation of certain competition-related Quality of Service indicators and gave final approval to ten of them which were analyzed and reported by the CRTC Interconnection Steering Committee Business Process Working Group.
Application by Aliant Telecom Inc. regarding compliance with Telecom Order CRTC 99-434, Telecom Decision CRTC 2003-74, 3 November 2003.	The Commission forbore, with some conditions, from regulating high capacity and digital data services interexchange private line (IXPL) services on routes for which competitors of several incumbent local exchange carriers offer, or provide, services at DS-3 or greater bandwidth.
Call-Net Part VII Application – Promotion of local residential competition, Telecom Decision CRTC 2004-4, 27 January 2004.	The Commission granted, with modifications, Call-Net's request for an education program to inform the public of the availability and terms of local competition, and Call-Net's request for an extension from three months to 12 months of the no-contact restriction under the winback rules.

Ruling	**Details**
FCI Broadband – Request to lift restrictions on the provision of retail digital subscriber line Internet services to business customers Telecom Decision CRTC 2004-34, 21 May 2004.	The Commission directed Bell Canada, Aliant Telecom Inc. SaskTel and TELUS upon request, to provide their respective retail digital subscriber line Internet service to any business competitive local exchange carrier primary exchange service customer who is being served by a local loop leased from any of them and who would otherwise qualify for the service.

Major Market Participants

Incumbent Carriers

Incumbent carriers can be divided into two categories: large and small. Since the break-up of the former Stentor Alliance in 1998, the large incumbent carriers have competed against one another by providing telecommunications services outside of their traditional home serving territories. These services include data and Internet services targeted at business customers, wireless services, business local exchange services, international telecommunications services and satellite transmission capacity and related earth segment (uplink and downlink) services. At the same time, there has been an increasing trend toward consolidation among large incumbents.

The advent of competition has significantly changed the role of the large incumbents. The large incumbents now provide not only retail services, but also a range of wholesale services to competitors under terms and conditions mandated by the Commission. These wholesale services include long distance switching and aggregation services, local transit and transport services, co-location and unbundled local loops. Both large and small incumbent carriers also provide a range of other services to retail customers and competitors such as Digital Network Access and Centrex services.

Large Incumbents

The large incumbents are Aliant Telecom, Bell Canada, MTS (now MTS Allstream Inc.),[1] SaskTel, TELUS, Teleglobe, Telesat, Northwestel, Télébec and TELUS Communications (Québec) (now part of TELUS).

Incumbent Out-of-Territory Service Providers

The four active players in this category are Bell Canada (through Bell West Inc.), MTS Allstream (through the acquisition of Allstream),[2] SaskTel (through Navigata) and TELUS.

Small Incumbent Carriers

There are 39 small incumbent telephone companies in Canada. With the exception of municipally-owned Prince Rupert City Telephones (CityTel) in British Columbia, these carriers are dispersed throughout the provinces of Ontario and Quebec. Small incumbent carriers are municipally-owned or independently owned, either privately or publicly. Like the large incumbents, they have enjoyed historical monopolies in their respective operating territories.

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[1] For the purposes of this report which primarily addresses 2003, Allstream Inc. and MTS are treated as separate companies. Allstream is classified as a competitor and MTS as an incumbent. In this report, the former Allstream operations are classified as competitor.

[2] Ibid.

Most serve mainly rural areas. Overall, small incumbent carriers serve less than 2% of the total population of Canada.

Given their limited serving areas, small incumbent carriers typically do not provide facilities-based long distance services. However, they do provide a range of local voice, data, Internet and wireless services. One exception is O.N.Telcom (now Ontera) that operates in a relatively large territory in Northern Ontario and primarily provides long distance services as well as local services. As well, branching out from the provision of local, data, wireless and terminal equipment services, NorthernTel, Limited Partnership has entered the long distance market in north-eastern Ontario.

Nineteen small incumbents are members of the Ontario Telecommunications Association (OTA), thirteen other small incumbents are members of the Association des Compagnies de Téléphone du Québec inc. (ACTQ), and five municipally-owned small incumbent carriers belong to the Canadian Alliance of Publicly-Owned Telecommunications Systems (CAPTS).

Competitive Service Providers

Competitive service providers in the Canadian telecommunications market provide telecommunications services on a facilities or resale basis, as well as on a combined facilities/resale (or hybrid) basis.

Facilities-Based Competitive Service Providers

These are competitive service providers that own physical transmission facilities.
This would include Allstream (now MTS Allstream Inc.),[3] Call-Net, Microcell, 360networks services ltd/ 360networks Canada Ltd. and FCI Broadband.

Resellers

Resellers first began to enter the long distance market in the late 1980s. To provide long distance services, they resell the facilities and/or services of incumbent and/or competitive carriers. Since resellers do not own transmission facilities, they are not Canadian carriers and, therefore, are not subject to foreign ownership restrictions.

Resellers provide business customers with local, long distance and other services on a resale basis, and they provide residential customers with long distance and Internet access services. Examples of resellers include Primus Telecommunications Canada Inc., Distributel Communications Limited and YAK Communications (Canada) Inc.

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[3] Ibid.

Resale-based Internet Service Providers (ISPs)

While incumbent carriers and cable companies account for the majority of the retail Internet access market, there are also hundreds of other independent ISPs operating across the country today.[4] Similar to resellers, these companies are not Canadian carriers and, therefore, are not subject to foreign ownership limitations. They provide business and residential customers with Internet access services, as well as web hosting, e-commerce and other services.

Most independent ISPs provide service on a local basis, although some service providers, such as AOL Canada, provide service on a national basis.

Pay Telephone Service Providers

The pay telephone market was opened to competition in 1998. At that time, the Commission set access rates to be charged to entrants wishing to connect their pay telephones to the incumbents' networks. Since that time, numerous parties have registered as Competitive Pay Telephone Service Providers (CPTSPs), with the intent of providing competitive alternatives to the incumbent carriers.[5] The vast majority of these new entrants are either inactive or very small.

Cable Providers

The largest cable companies provide a diverse range of services, which, in addition to high-speed Internet over cable modems, include a variety of other wireless and wireline telecommunications services. EastLink is the only Canadian cable provider to provide cable telephony services to date.

Utility Telcos

Historically, many utility companies (e.g., in the electricity, energy, gas or other utility businesses) have managed their own telecommunications facilities to meet internal service requirements for administrative data, voice and power system protection and operation. They own facilities that include microwave radio, fibre-optic cable, power line carrier and mobile radio systems, although many microwave radio systems have been or are in the process of being replaced by fibre-optic systems.

Entry into the telecommunications market by utility telcos has been limited, but appears to be increasing. Examples of utility telcos include the creation of Hydro One Telecom Inc., which provides service on a provincial basis, as well as members of the Ontario-based FibreWired Network that provide telecommunications services in the metropolitan areas served by their respective parent electric utility companies.

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[4] Independent ISPs in this context refers to ISPs that are not affiliated with either incumbent carriers, cable providers or other facilities-based carriers (such as Call-Net).

[5] A list of current CPTSPs is available on the Commission's website: http://www.crtc.gc.ca/ENG/public/Iplists/cptsp.htm.

Glossary of Terms and Acronyms[1]

Analog Service: Transmission of a set of audible frequencies enabling telephony voice conversations or dial-up Internet access via a regular telephone line. Virtually all residential telephones are analog devices. Analog signals are typically converted to a digital format.

Broadband Services: For the purposes of this report, a service enabling the two-way transmission of voice, data or multimedia communications with speeds in one direction in excess of 1.544 Mbps.

Cable Internet Service: A bi-directional high-speed digital communication service, enabling Internet access through the use of cable TV coaxial network.

Competitive Digital Network Access (CDNA): A Commission mandated service where certain DNA service components are provided to competitors at mandated wholesale rates. In addition, the service may not be utilised for simple resale.

Centrex Resale: The purchase and resale of bulk Centrex service to retail customers.

Centrex Service: A telephone company-supplied local service with associated sets of features (e.g., call display, call forwarding).

Competitive Local Exchange Carrier (CLEC): A facilities-based provider of local exchange service, other than an ILEC.

CRTC Interconnection Steering Committee (CISC): A forum for parties, with Commission assistance, to resolve local competition implementation issues of a technological, operational or administrative nature and to resolve other telecommunications issues.

Digital Network Access (DNA) : A tariffed service of the ILECs that provides for the digital transmission of information from the customer's premises to another premises or a network service within the local exchange.

Digital Service: The transmission of binary data signals (a continuous string of zeros and ones). Such service is used for computer-to-computer communications or for transmission of digitally-encoded analog signals in telephone and digital cellular networks.

Digital Subscriber Loop (DSL): A local copper loop equipped to allow high-speed data transmission.

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[1] A complete glossary of telecommunications terms can be found at http://www.crtc.gc.ca/partvii/eng/monitor/glossary.htm.

Facilities-based Carrier: A carrier that owns and operates transmission facilities to provide telecommunications services.

Fibre Optics: A broadband transmission facility which uses a beam of light to transmit a digital signal through a glass strand.

Fixed wireless: Point-to-point transmission through the air between stationary devices.

Incumbent Local Exchange Carrier (ILEC): A company that, prior to the introduction of competition, provided monopoly local telephone service.

Internet Service Providers (ISPs): Companies that provide customers with Internet access.

Interexchange Private Line (IXPL): A dedicated communications channel provided at flat rates between points in different exchanges.

Local Loop: Sometimes called the "last mile", the connection between the customer premise and the Central Office.

Long Distance Resale: The purchase and resale of bulk private line and other interexchange services for the provision of long distance services to retail customers.

Mobile Services: Wireless services include analog and digital cellular (e.g. Personal Communications Services or PCS), but excluding fixed wireless services.

Narrowband Services: For the purposes of this report, a service enabling the two-way transmission of voice or data communications with speeds in either direction not exceeding 64 Kbps.

Private Line Service: A dedicated communications channel between two or more points.

Support Structure: Structures, such as poles and conduit, that support transmission facilities (copper, cable and/or fibre optics).

Terminal Equipment: Equipment located at the customer's premises, used for voice or data communications (e.g., telephone set).

Wireless Service: Telecommunications services via the airwaves using radio, cellular, satellite, microwave and other wireless transmission systems including fixed wireless.

Wireline Service: Telecommunications services offered over wires.

C R T C

Canadian Radio-television and
Telecommunications Commission

Conseil de la radiodiffusion et des
télécommunications canadiennes